IMPERIAL BUREAU
19 FEB 1926
OF MYCOLOGY

SIERRA LEONE.

Annual Report

OF THE

LANDS AND FORESTS DEPARTMENT

FOR THE YEAR

1924.

FREETOWN:
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SIERRA LEONE
1926

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FROM THE COMMISSIONER OF LANDS AND FORESTS

TO THE HONOURABLE THE COLONIAL SECRETARY, FREETOWN.

SIR,

I have the honour to submit herewith the annual report of this department for the year 1924.

2. The department now comprises the following divisions :—

(*a*) HEADQUARTERS AND ADMINISTRATIVE.
(*b*) DIVISION OF RESEARCH.
(*c*) DIVISION OF AGRICULTURE.
(*d*) DIVISION OF FORESTS.
(*e*) PLANTS AND PRODUCE INSPECTION.

3. The staff of the department at the end of the year was as follows :—

HEADQUARTERS—ADMINISTRATIVE.

Head of Department :

Commissioner of Lands and Forests	M. T. Dawe

Clerical Staff :

Head clerk	E. F. W. Smart
Second clerk	F. W. Hooke
Third clerk	G. B. D. Campbell
Fourth clerk	C. A. Wilson
Fifth clerk	W. O. F. Horman
(Clerk on Special British Empire Exhibition duty at Wembley)	F. Fofana
Keeper of economic collections	S. A. Jarr.

DIVISION OF RESEARCH.

Agricultural Chemist	Dr. F. J Martin
Entomologist	E. Hargreaves
Laboratory Assistants	R. de S. Thomas and J. S. Wellington

DIVISION OF AGRICULTURE.

Director of Agriculture	D. W. Scotland
Provincial Superintendent of Agriculture	J. W. D. Fisher
Provincial Superintendent of Agriculture	R. R. Glanville
Agricultural Instructor	D. C. Edwards
Superintendent of Experimental Farm	S. L. Moseley

(The African Staff is given in Part III.)

Division of Forests.

Conservator of Forests	Vacant
Senior Assistant Conservator of Forests	K. G. Burbridge
Assistant Conservator of Forests	E. Macdonald
Assistant Conservator of Forests	D. G. Thomas
Assistant Conservator of Forests	A. Burns
Rangers, First and Second Class	Ten
Foresters, First and Second Class	Six
Forest Guards	Fifty-one
Nurserymen	Four

Division of Plants and Produce Inspection.

Inspector of Plants and Produce	G. Tuach
Sub-Inspector of Produce	S. T. Maddy
Sub-Inspector of Produce	L. Inga
Sub-Inspector of Produce	B. Fabundeh

HEADQUARTERS—ADMINISTRATION.

4. The Commissioner of Lands and Forests left Sierra Leone on the 20th February, to take up his appointment as Exhibition Commissioner for Sierra Leone at the British Empire Exhibition at Wembley and the Director of Agriculture was in charge of the department till the end of the year. A brief report on the Sierra Leone Section of the British Empire Exhibition, 1924, forms part VI. of this report.

5. Office.—The office accommodation in the old Post Office building proved entirely inadequate and the lease of a suitable three-storied building was obtained in April. Owing however to considerable repairs and alterations being necessary, it was not found possible to take possession until the 23rd December. This building however now accommodates the Commissioner and his clerical staff, the Agricultural Chemist and his staff with an up-to-date laboratory, the Conservator of Forests and his staff and the Inspector of Plants and Produce. The building also comprises a spacious room on the ground floor, which has been set aside as a Museum for the accommodation of a reference collection of agricultural and forest produce and products. It is the object to arrange the collection in a manner which will not only prove of educational value to the colleges and schools of the country, but also prove interesting and instructive to the many visitors who call at this Port. Not only is it intended to display the raw produce, as showing the resources of the Colony and Protectorate, but also the many uses to which such produce is put. Therefore side by side with oil palm kernels will be shown the oil obtained from them, the various forms of refined oil, as well as the final products such as margarine, soap, candles, feeding cake, etc. The Public Works have undertaken to make the necessary show cases, but these were not completed at the end of the year.

DIVISION OF RESEARCH.

6. The report of the Agricultural Chemist on the Division of Research forms Part II of this report. This division at present comprises two sections, chemical and entomological; pending the creation of a Veterinary Division, it was thought advisable to attach the Entomologist provisionally to the Division of Research. The Agricultural Chemist took up his duties on 27th September. In addition to supervising the fitting and equipping of the chemical laboratory he made a short tour and visited the Central and Southern Provinces and the Njala Experimental Farm.

Soil Survey of Sierra Leone.

7. The most important work at present of this division is a soil survey of the country and this work was commenced by the collection of soil samples from the provinces.

Oil-palm Investigations.

8. Scarcely less important is the determination of the relative values of the different varieties of oil-palms, and preliminary investigations have been made as to the percentages of pericarp, shell, kernel and pericarp oil to fruit, for details of which reference should be made to the report.

Investigations by the Imperial Institute.

9. During the year a good many economic products were sent to the Imperial Institute for examination and report and a summary of the work done by the Institute is included in the Chemist's report.

Mycology.

10. The Chemist's report also contains a chapter on mycology, drawn up mainly from notes kindly furnished by Dr. V. C. Dunlap of Messrs. Elders & Fyffes, who visited Sierra Leone in December. One of his most important discoveries here was the existence of the Panama Disease of bananas; this is common in the banana growing countries of Central and South America and the West Indies, and has recently been recorded from the Canaries, but it was not previously known to exist in Sierra Leone. It has devastated large banana plantations in Central America and the West Indies, and very stringent control measures will need to be enforced here should banana growing for export be taken up in Sierra Leone. The Black arm of cotton, the leaf spot of ground-nuts, the twig blight of kola rice rust and algal leaf-spot of rubber have also been found here and the chapter referred to gives descriptions of the diseases and in some cases measures advised for their control.

Entomology.

11. A further chapter of Part II embodies the report of the Entomologist, who took up his appointment in the Colony on the 21st June. His attention for the last six months of the year was divided between a tsetse-fly survey and a study of the various pests of the principal crops of the country.

Tsetse-fly Survey.

12. The principal object in making this survey is to determine the fly belts, so as to ascertain in what localities cattle farming may be encouraged and by which routes cattle may be moved from one district to another with some degree of safety. The more immediate object of the survey, however, is to determine a suitable site for the proposed cattle farm. A description of the work accomplished will be found on page 29. Progress in this work has been unfortunately frequently interrupted by demands on the Entomologist's time for investigations into various crop pests, principally the scale pest of coconuts (*Aspidiotus destructor*, Sign.) and cotton pests.

Coconut Scale.

13. This scale has done a good deal of damage to coconut palms in the Colony, and some parts of the Protectorate, during the last few years. The Entomologist has discovered that the scale insect is frequently attacked by a parasitical fungus (*Nectria diploa*,) which kills the scale. He has conducted experiments by distributing the fungus artificially and has found that it rapidly spreads and attacks the scale, and it is hoped that it can be employed in the future as an effective means of controlling the scale. This subject is dealt with at length on pages 20 and 21.

Cotton Pests.

14. The usual insect pests common to cotton occur in Sierra Leone and these are dealt with on pages 19 to 25.

Kola Pests.

15. The kola tree and fruit have numerous enemies and these together cause a considerable loss in the production of fruit. In the first instance the tree suffers from the "mistletoe" parasite which is usually not removed by the owners and rapidly spreads from branch to branch until they become so numerous on the tree that they sap the life from it and the tree dies. Then there is the Psyllid insect referred to by the Entomologist who estimates it is responsible for 50 per cent. loss in crop. Further there is the kola beetle which attacks the fruit after it has been gathered (and probably on the tree too). It is further estimated that 50 per cent. of the fruit is usually discarded by the Syrian merchants on or after purchase as being "wormy." Kola is the second most important export from Sierra Leone and it is essential that the Entomologist makes an early study of the kola pests with the view to recommending measures for dealing with them.

Other Insect Pests.

16. These will be found dealt with in alphabetical order in a useful chapter under the heading of "Crop and Crop Pests" and finally there is a list of blood-sucking insects found in Sierra Leone. (*p. 25*).

Loss of Crops through Insect Pests.

17. In the few months that the Entomologist has been in this country he has shown us that the insect pests of crops are very numerous. Even the commn cassava has its pests. Not only are the insect pests numerous, but in some cases, as the coconut scale, the Psyllid insect of kola and the kola beetle, they are very destructive and cause a heavy annual loss to the growers. It is therefore essential that the fullest investigations should be made in each case, so that measures can be taken for the effective control or eradication of the pests.

DIVISION OF AGRICULTURE.

18. The report of this division forms Part III and this includes as Appendix "A" the report of the Agricultural Instructor, appendices "B" & "C," meteorological data for the year and rainfall records for the ten years ending 1924 respectively.

19. The department suffered a heavy loss on the 21st May by the death, through drowning whilst bathing in the Taia river, of the Agricultural Instructor—Mr. J. H. Hunter, and the Provincial Superintendent of Agriculture—Mr. R. Grant. These officers had only taken up their posts in January and March, respectively, and their untimely death was a heavy blow and a great loss to the department.

Agricultural Development.

20. The systematic efforts made in 1923 to interest the chiefs and people in the cultivation of export crops, as far as possible on proper plantation lines, have been continued with increased vigour in 1924. Attention has been principally directed to cotton, swamp rice, cocoa, coconuts, maize, and ginger.

Cotton.

21. Attention was concentrated, as in the previous year, to Allen's Long Staple which is the kind that has proved most successful in Nigeria. It has, however, in Sierra Leone not given the results anticipated, but it would appear that in West Africa it matures much more rapidly than it does in America and that the seed was sown too early, since the greater part of the crop ripened in the rains and was spoilt. The total crop purchased by the Government only amounted to some twenty-one small bales, but it is believed that a good deal of the crop was kept back by the natives for their own weaving industry, who recognize the superiority of the lint to that of the native varieties. The best of the cotton was valued at 14·75*d.* with American Futures at 12·50*d.* At the beginning of the cotton season it was urged that two ginneries at least should be erected, one on the main line and one on the branch line. The Commissioner of Lands and Forests, however, recommended that one ginnery only should be erected, in the first instance, and suggested Boia junction on the railway as the most appropriate site, since the seed cotton could be brought down from the main and branch lines to the ginnery. The department is indebted to the British Cotton Growing Association for their generosity in providing and erecting the ginnery at Boia, which was formally opened by His Excellency the Governor on the 23rd December. The first bale ginned on that occasion was baled in a Union Jack and has been on exhibit in the Sierra Leone Pavailion at the British Empire Exhibition, Wembley, this year. It is disappointing that the results, which earlier in the year appeared so promising have proved so unsatisfactory. However, the experience of 1924 indicates that later sowing may give better results and further trials are being made this year in late season sowing. Furthermore, it has been decided only to encourage cotton planting in the north and eastern parts of the Protectorate where the rainfall, judging by the averages for the last ten years, is about 33 inches less than on the actual Coast.

Cocoa.

22. Propaganda work in the cultivation of cocoa continues in the Southern Province and considerable progress has been made during the year, 111 new plots have been planted and many new nurseries have been established. The owners, however, report that monkeys do a good deal of damage to the maturing cocoa pods as they are very fond of the sweet pulp which surrounds the beans. The coconut instructor confirms this as he reports that "at Haya there are a lot of cocoa seeedlings under the trees and also in the coconut nursery sown by the monkeys". The near future should see a considerable increase in the exports.

Coconuts.

23. The Government has continued to render assistance in the establishment of coconut plantations in the Southern Province by purchasing seed nuts and distributing them for planting amongst the natives. An itinerant instructor is provided who travels around and advises in the formation of nurseries and the establishment of plantations. Some 35,000 nuts have been planted since the project was commenced in 1923, and if this is continued for a year or two more the Southern Province will soon be in a position to export copra. The zone in which the cultivation of coconuts is being encouraged is at present free from the scale pest which has proved so destructive further north.

Swamp Rice Growing.

24. The project of planting up the swamp areas of the coast lands in the Southern Province initiated in 1923, has been continued with marked success. Considerable areas of new swamp lands have been brought under cultivation. These were cleared early in the year and in March some 200 bushels of rice were distributed free for planting. The

conversion of what was hitherto regarded as waste and useless lands to productive rice fields marks a milestone in agricultural progress in the Southern Province. When these mangrove swamp lands reach their zenith of production (for the first year or two the yield is always small) the output of swamp rice in the Southern Province should be considerable.

Maize.

25. Maize grown from seed imported from South Africa in 1923 has been planted widely. There are signs, however, that the seed rapidly deteriorates in this country, and it is unlikely that it will be produced in large quantities for export. If, however, its cultivation can be encouraged as a food crop for the country a good work will have been achieved as its value, as a food, is not at present properly appreciated in Sierra Leone.

Ginger.

26. This crop was formerly grown in the Colony, but its cultivation has extended up the main line of the railway and the bulk of the crop now comes from the Moyamba District of the Central Province. Its cultivation is now extending up the branch line, for the Temne people, having seen what a success ginger has been in the Mende country, are now making plantations in the Northern Province. The Government has supplied seed ginger and an Instructor to advise the natives of the Northern Province in its cultivation. The ginger crop for 1924 was a large one, 38,847 cwts. value £105,633, having been exported, which is an increase over 1923 of 10,942 cwts. and the largest export since 1913. The United Kingdom imported from Sierra Leone during 1924 a larger quantity of ginger than from any other country for that year, that being 17,291 cwts. value £61,483. The United States took 24,839 cwts. of Sierra Leone ginger in 1924, nearly double that of the United Kingdom import from Sierra Leone for that year. This is the largest quantity of ginger that has been exported to the United States in any one year since the United States became a customer of Sierra Leone ginger in 1916. Early in the season active propaganda was undertaken by this department to induce the growers to produce a better quality of ginger by peeling and washing and bleaching the root. A certain quantity of good peeled ginger was exported and attracted a good deal of attention in London, but unfortunately the traders, later in the season, refused to differentiate in the price, and the producers, disappointed at not getting a better price for peeled ginger, reverted to the old method of preparation. On the whole, however, the ginger was better prepared in 1924 than in previous years. It is, moreover, hoped that in the 1925–1926 season the producers will again make an effort to properly peel and clean the root, at least of part of the crop, as it is only good clean peeled ginger which is employed for the best products, and we can only hope to approach Jamaican prices when we can produce good bold clean ginger. It is further hoped that the merchants and traders will assist the Government in its effort to improve the quality of ginger, which product now ranks third in importance of the Sierra Leone exports.

Agricultural Instruction.

27. A scheme for the training of agricultural apprentices and the senior pupils of the Njala College was inaugurated in January under the management of an Agricultural Instructor (Mr. Hunter), but owing to his untimely end, to which reference has been made in paragraph 19, there occurred a break in the programme of work until the arrival of his successor in October. Mr. Edwards then continued the work of his predecessor and by the end of the year a laboratory and a library for the students was built and good progress was being made. A report on the work done forms Appendix A and is referred to in Part III paragraph 10 by the Director of Agriculture.

NJALA EXPERIMENTAL FARM.

Distribution of Plants and Seeds.

28. The work carried out at Njala is dealt with in Part III. The most useful work performed at Njala during the year was the raising and distribution of seeds and plants. A large number of economic plants were distributed and also roots and seeds, such as ginger, yams, coffee, rice, cocoa, maize, kola, etc.

Agricultural Show and British Empire Exhibition.

29. Njala also provided a fine collection of exhibits for the Sembehun Agricultural Show and also prepared an excellent collection of exhibits of agricultural produce for the Sierra Leone Pavilion at Wembley, which the British Empire Exhibition Board awarded a Certificate and Commemorative medal.

Permanent Crops.

30. The permanent plantations have been maintained, these consist of para rubber, lime, kola, coffee, oil-palms, etc. The Nigerian oil-palm plot interests the chiefs and natives visiting the station most, since the palms are bearing so young; it is difficult to get them believe that their own native varieties will bear similarly if cultivated. A plot of six acres has been laid down to sisal hemp.

Annual Crops.

31. With regard to annual crops there is little tangible to report as to actual results in 1924. The management of this farm has now been placed under an European officer and a more comprehensive programme of experiments has been drawn up, which it is hoped will furnish useful and valuable data in 1925.

Efwatakala Pasture.

32. I give hereunder a summary of a special report on this grass made by Mr. Glanville when Acting Director of Agriculture at Njala :—

"I have the honour to submit a report on the Efwatakala grass—*Melinis minutiflora*—now being cultivated at Njala. This grass has been cultivated extensively for many years in portions of South America and South Africa where it is regarded as a valuable hay and pasture plant. In addition Efwatakala grass is reported to have certain insecticidal properties, and it is hoped that by growing it on an extensive scale it may be possible to gradually clear infested areas of tsetse-fly and other harmful insect pests.

"2. The seed was introduced into Sierra Leone from Colombia by Mr. M. T. Dawe, in 1922. Experiments were then started at Njala to see how the grass would grow under the climatic and other conditions existing here. One-fortieth acre plots were sown at Njala, Ngiahun, Nywhama. All of these plots did well and in 1923 an area of over seven acres was planted with cuttings from these plots. This area was further increased in October, 1924, when an additional three-and-a-half acres were planted with cuttings from the 1923 plot. Altogether there is now 11½ acres at Njala under this grass, which on the whole appears to take very kindly to the conditions here.

"3. Having heard of the supposed smothering effects of this grass on other grasses and weeds, an experiment was started in 1923 to see if it could be utilized to combat the growth of 'lalang' grass, which is one of the most pernicious of the many weeds that we have to contend with in this country. Two plots of one-twentieth acre each, which were infested with lalang, were planted with clumps of Efwatakala grass—the clumps being one foot apart. One plot was deep-hoed, before planting, to check the growth of lalang, but the other was planted without any preparation other than the cutlassing of the lalang. No other cultural operations have been carried out since. At the end of 1923 it was noticed that the deep-hoed plot was almost free from lalang, but patches of it still remained scattered through the other plot. At present there are a few small patches of lalang on the border, of the area, but there is none of the weed in the centre of the plots and so it would appear that Efwatakala has considerable smothering effects, on this weed at any rate.

"4. In contradiction of the results obtained above there are a considerable number of weeds existing in the large plot of Efwatakala grass here and these have to be eradicated periodically in an attempt to keep the stand pure. With refereuce to the smothering powers of Efwatakala grass, I quote the following extrrct from a letter to the Commissioner of Lands and Forests from the Chief Agriculturist and Botanist, Rhodesia. "To secure pure stands, however, constant attention is necessary in this country. It cannot be said of this grass in Rhodesia that it domineers over the rest of the vegetation."

"5. A measured area of the 1923 plot, which was cutlassed and harvested in December, 1924, gave a yield equal to three tons per acre which is quite a good result. The hay was rather woody and non-succulent, and I doubt if it would have been much appreciated as fodder by cattle. The plot had not however been cut since planting in 1923. I do not doubt that if the grass had been grown for that purpose and had been harvested at the correct time, it would have produced a much better quality hay. I understand this grass gives the best hay crops of any grass cultivated in Rhodesia and I do not see why it should not do equally well here."

A plot of this grass has also been planted on the Lighthouse peninsula by the Sanitary Department, and here it has formed complete cover of the land. This grass has also been established in different parts of the Protectorate.

Zimi Model Farm.

33. Paragraph 13 of Part III deals with a small experimental station which has been started at Zimi in the Southern Province as a model farm. As this model farm is at the headquarters of the Mano River District, where cocoa and coffee are being encouraged, the model plots laid down there should have a good educative effect on the many chiefs and natives who come to visit the district headquarters.

Meteorological Data.

34. Appendix B gives the temperature records and monthly rainfalls for the year of nine stations in the Colony and Protectorate.

Rainfall Records.

35. Appendix C gives a comparative statement of the monthly rainfall for the last ten years for seven stations, together with the average monthly falls for that period and the totals for each year. In the 1923 annual report various errors crept in these returns which have in this report been corrected.

DIVISION OF FORESTS.

36. The report of the Division of Forests forms Part IV of this report. The dawn of 1924 saw the inauguration of the new system of forest administration, the institution of working circles as foreshadowed in the 1923 report. The new system has worked satisfactorily and has proved much more so than the former haphazard method of the distribution of work and responsibility. The Assistant Conservators now take a greater interest in their work as they feel they are responsible for the area and reserves allocated to their charge.

Reservation.

37. The work of the division, as in former years, has been concentrated on reservation, but the area added to the reserves during the year is insignificant, merely 4·15 sq. miles. A total of 281·60 sq. miles has however been surveyed and demarcated, partly in 1923 and partly in 1924. This comprises the Gola Reserves in the Southern Province and the Tonkoli Forest in the Northern Province. Although these forests were not legally constituted during the year, they may be regarded as under control, which brings the reserves and restricted areas up to 605·45 sq. miles. This makes the area of protected forest slightly over 2 per cent. of the total area of the country. It has however taken the Forestry Department thirteen years to accomplish this, and the rate of reservations has averaged (including restricted areas not yet surveyed) 46·59 sq. miles per year. Reservation work was retarded, however, during the years of the war.

Exploitation of Forests.

38. Beyond the extraction of timber for the Railway from the Kambui Reserve referred to in paragraph 9 of Part IV, and the scale of a few trees from the Colonial Reserve, no systematic working of the forests has yet been undertaken.

Gum Copal.

39. As mentioned in last year's annual report, the gum copal reserves and restricted areas were thrown open for tapping on the 3rd October, 1923, and 115 licences were issued. The gum was collected from the trees early in the year and 68,203 lb. were exported, valued at £4,382 ; this is an increase of 17,055 lb. over the 1920 export when tapping was last permitted. As pointed out by the Acting Conservator this increase is satisfactory as showing that the yield is increasing as a result of the measures taken to protect the trees against the uncontrolled and destructive tapping formerly practised.

GENERAL.

40. With reference to paragraph 19 of Part IV the question of building up an efficient staff is receiving consideration and the programme of the proposed Sierra Leone College of Agriculture includes a scheme for the training of the subordinate staff of the Division of Forests. The question of reafforestation is also under consideration and funds have been earmarked for this work. The Acting Conservator omitted to mention in his report, owing probably to modesty, that the Division of Forests exhibited at the British Empire Exhibition Wembley, a collection of timbers and forest produce, and that the Exhibition Board awarded the Division of Forests a certificate and commemorative medal in recognition of the excellence of the exhibit and the interest it afforded to commercial and other visitors to the Sierra Leone Pavilion.

PLANTS AND PRODUCE INSPECTION DIVISION.

41. The report of this division forms Part V. This is the only division of the department which is self-supporting, revenue exceeding expenditure by about £325.

Palm Kernels.

42. The principal work of this division is the inspection of palm kernels provided for under the Native Produce Ordinance. Inspection has had most excellent results and the quality of palm kernels exported has very appreciably improved. Not only has the quality been improved but the quantity exported during 1924 forms a record, viz., 61,117 tons, valued at £1,096,386, an increase over the previous record (1923) of 1,572 tons.

Crop Inspection.

43. During the year the inspector did most useful work in touring the districts and advising the natives in the better preparation of their produce for the market, particularly in regard to ginger, and piassava. The improvement in the quality of the ginger crop of 1924 was largely due to the results of these efforts.

Legislation.

44. It is now contemplated to bring palm oil, piassava and ginger, under inspection and to tighten up the regulations in regard to the quality of palm kernels as well as to legislate in regard to the transport of water-borne kernels to prevent, as far as possible, the kernels being damaged by soaking.

BRITISH EMPIRE EXHIBITION, 1924.

45. As mentioned in paragraph 4 a brief report on Sierra Leone's participation in the British Empire Exhibition forms Part VI of this report. This should be regarded as a provisional report since the Exhibition has been continued in 1925 and a final report will be submitted at the close of the Exhibition.

FINANCIAL.

46. The following is a statement of revenue and expenditure for the department for the year :—

REVENUE.

	Inspection.	Agriculture.	Forests.	Total.
	£ s. d	£ s. d.	£ s. d.	£ s. d.
Licences :				
Crown lands	—	—	62 11 0	62 11 0
Produce	1,146 14 10	—	—	1,146 14 10
Fines for contravention of Produce Ordinance	107 2 6	—	—	107 2 6
Departmental fines	—	2 1 2	2 15 6	4 16 8
Fees of Court, etc :				
Sale of Government stores	—	3 13 4	0 12 0	4 5 4
Sale of produce	—	23 18 8	50 10 11	74 9 7
Miscellaneous Receipts :				
Other miscellaneous receipts	—	—	—	—
(Royalties—Colonial Reserve)	—	—	1 14 0	1 14 0
Total Revenue	£1,253 17 4	£29 13 2	£118 3 5	£1,401 13 11

EXPENDITURE.

	Headquarters.	Research.	Inspection.	Agriculture.	Forests.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Personal Emoluments :						
Salaries	1,880 15 9	258 19 1	602 0 0	3,714 19 8	2,745 4 4	9,201 18 10
Duty allowance	240 0 0	—	—	225 16 1	—	465 16 1
Seniority pay	—	18 0 0	—	—	30 5 0	48 5 0
African assistants	—	—	—	—	2,222 15 9	2,222 15 9
Allowance in lieu of quarters	—	—	5 0 3	49 4 4	3 12 10	57 17 5
Allowance to motor driver	—	—	—	25 0 0	—	25 0 0
Total Personal Emolument ...	£2,120 15 9	£276 19 1	£607 0 3	£4,015 0 4	£5,001 17 11	£12,021 13 1

EXPENDITURE—*continued.*

	Headquarters.	Research.	Inspection.	Agriculture	Forests.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total Personal Emoluments—*brought forward* ...	2,120 15 9	276 19 1	607 0 3	4,015 0 1	5,001 17 11	12,021 13 1
Other Charges:						
Contingencies	14 15 8	9 3 5	1 13 4	33 3 0	35 1 7	93 17 0
Transport, travelling allowances, etc	228 3 6	272 0 1	298 17 6	1,161 2 6	1,019 18 10	2,980 2 5
Hammock allowance	—	—	—	—	140 2 6	140 2 6
Agricultural development	—	—	—	310 4 7	—	310 4 7
Labour and native assistants	—	—	—	2,154 0 5	685 12 1	2,839 12 6
Seeds and plants	—	—	—	88 6 1	—	88 6 1
Tools, appliances and materials	—	—	—	130 8 4	45 3 2	175 11 6
Uniforms for African staff	4 11 0	—	20 10 10	—	146 11 6	171 13 4
Surveying instruments	—	—	—	—	41 8 5	41 8 5
Laboratory apparatus	—	804 7 8	—	—	—	804 7 8
Chemicals and materials	—	880 5 1	—	—	—	880 5 1
Laboratory appliances	—	—	—	30 5 5	—	30 5 5
Library	—	—	—	51 11 10	—	51 11 10
Telephone service	6 0 0	—	—	—	—	6 0 0
Museum outfit	182 9 1	—	—	—	—	182 9 1
Agricultural shows	282 2 6	—	—	—	—	282 2 6
Grant to Imperial Bureau of Mycology	250 0 0	—	—	—	—	250 0 0
Contribution to Central Forestry Training Institution—London	90 6 7	—	—	—	—	90 6 7
Imperial Institute—contribution to	500 0 0	—	—	—	—	500 0 0
Imperial Institute, equipment of Sierra Leone court	3 9 1	—	—	—	—	3 9 1
Collecting specimens for Imperial Institute	52 2 9	—	—	—	—	52 2 9
Handbook of Flora of West Africa	52 12 9	—	—	—	—	52 12 9
Rent of offices	184 2 6	—	—	—	—	184 2 6
Rent of Experimental Farm, Njala, etc.	—	—	—	9 5 0	—	9 5 0
Tents	—	—	—	—	71 5 9	71 5 9
Expenditure *re* purchase of cotton	—	—	—	38 9 8	—	38 9 8
Running ginnery—expenses *re*	—	—	—	98 11 3	—	98 11 3
Erection of laboratary, Njala	—	—	—	140 10 3	—	140 10 3
Total Other Charges	£1,850 15 5	£1,965 16 3	£321 1 8	£4,245 18 4	£2,185 3 10	£10,568 15 6
Grand Total	£3,971 11 2	£2,242 15 4	£928 1 11	£8,260 18 5	£7,187 1 9	£22,590 8 7

47. In conclusion, I desire to express my grateful thanks, not only to the officers of my staff, European and African, who have afforded the department their willing and valuable assistance throughout the year, but also to the Political Officers who have assisted the department in carrying out, in the districts, the various planting projects which have been initiated and which I know has meant the sacrifice of a good deal of their valuable time.

I have the honour to be,
SIR,
Your most obedient servant,

M. T. DAWE.
Commissioner of Lands and Forests.

LANDS AND FORESTS DEPARTMENT,
FREETOWN,
1925.

PART II.

REPORT ON THE DIVISION OF RESEARCH.

FROM THE AGRICULTURAL CHEMIST

TO THE HONOURABLE THE COMMISSIONER OF LANDS AND FORESTS.

SIR,

I have the honour to forward herewith my report for the year 1924, incorporating that of the Government Entomologist.

2. At present the Division of Research comprises two sections, a Chemical and an Entomological section, and as will be seen from the reports of these sections, there is a wide field and much urgent work to be done The more one comes into contact with field work however, the more one realizes the need of further specialized advice and assistance, and the services of a Botanist and a Mycologist are urgently needed.

3. A glance at the notes under the heading "Mycology" will show that we are no more free from plant diseases than other tropical countries, and it is essential in the interests of agriculture that we should be well informed on all diseases attacking plants and the methods for their control and prevention. This can only be done by the appointment of a Mycologist.

4. Plant breeding is another branch which has been sadly neglected. As long ago as 1902 Quande cotton was cited as a suitable type from which a commercial strain could be isolated by selection, but although recently trials with Quande have been started by the Division of Agriculture, yet there is no one in that Division with either the qualification essential or the time available to carry out systematic breeding trials. This is only one crop which needs immediate study, others, including oil-palms and rice, should also be carefully investigated with a view to improving both the yield and quality of our products. This work needs the whole time of a suitably qualified Botanist.

CHEMISTRY.

5. The Agricultural Chemist arrived on 27th September, and the greater part of the three months during which he has been in Sierra Leone has been employed in supervising the fitting up of the new chemical laboratory (unfortunately a very slow process), collecting data from various sources of past examinations of Sierra Leone produce, and collecting soil samples, both personally and through Agricultural and Forest officers. A short tour was made into the Central and Southern Provinces, and the Experimental Farm at Njala was visited.

6. SOIL EXAMINATIONS.—Arrangements have been made for a complete soil survey of the whole of Sierra Leone. Each forest officer on his circuit and each Superintendent of Agriculture in his province is being utilized in the collection of soil samples. These are taken to a depth of four feet—one sample from each layer of one foot—and instructions as to the method of taking them have been issued so that the samples are uniformly taken over the whole of the Colony and Protectorate.

Up to the present 118 samples of soil have been received from the following districts :—

Northern Province	...	...	...	...	70 samples
Central Province	...	...	...	...	28 ,,
Southern Province	...	...	...	...	20 ,,

These samples are being analysed in the new laboratory and it is hoped that we shall soon have considerable information about the various types of Sierra Leone soils.

7. OIL-PALM PLANTATIONS.—Except at the Experimental Farm at Njala, no oil-palm plantations exist in Sierra Leone, and during a recent tour through oil-palm areas, the conditions under which the oil-palm grows were studied. Briefly, the oil-palm struggles for existence, surrounded by bush and under-growth with its stem covered with stalks of old leaves, debris collected between these leaves and the stem, and parasitic growths flourishing on this debris. By this means light and air are excluded to a great extent from the oil-palm, and it is not until the palm begins to fruit that the stem is dressed by the natives, and then only because it is necessary to remove the old leaves and rubbish before the fruit can be collected.

Bearing in mind the results obtained at Peki Blengo (Gold Coast) and Bingerville (Ivory Coast) by the cultivation of wild palm stands, it was decided to start demonstration plots of "cultivated" wild palm stands in Sierra Leone. This project was discussed with the Commissioner of the Southern Province who arranged for six demonstration plots each of three acres in area to be started in various districts in his province ; work has already started on these plantations. Arrangements have also been made with Paramount Chief Morepeh of Kangama for a similar plantation in the Konno country.

8. Oil-palm Products.—It has been possible to make a start on this work owing to the kindness of Messrs. Culleys Expressors, Ltd., who, through their Agents Messrs. W. Bartholomew of Freetown, have presented us with a machine for the extraction of pericarp oil and also with a nut-cracking machine.

Preliminary trials have already been made with these machines. The oil extraction apparatus consists of a depericarper, and a hand-press for expressing the oil from the pulp after it has been removed from the nuts. Up to the present, the depericarper has not been a complete success, probably because we have been unable to soften the pericarp to a suitable degree ; we are trying to overcome this difficulty.

One point, however, was brought out during these trials, and that is, that the palm fruits of the common variety received for experiment contained about 80 per cent. of uncracked nuts. These oil-palm fruits were of the variety known locally as Cawarri (or Cawalli).

The nuts were dried and cracked and had the following composition :—

Kernels	...	...	...	.	...	18·7 per cent.
Shell	...	...	...	...	...	81·3 ,,

The nut-cracking machine appears to be fairly satisfactory and it is to be hoped that this or some similar machine will come into general use, as the labour saved by this method of cracking nuts is considerable.

9. Varieties of Oil-palm.—Five varieties of oil-palms have been recognized and examined : these have been sent to Kew to be indentified.

The chemical examination of the fruits was of great interest. Not only did the fruits vary largely in shape, size and general characteristics, but the proportions of pericarp oil and kernels also varied greatly. A further interesting point is that the variety called Jackeye yields an oil which the natives distinguish from the oils of other varieties, and although they mix the oils of other varieties together, they do not mix the oil of Jackeye with the oils of any of the other varieties. No exhaustive examination has been made of any of these oils and the only difference noted was that the oil from Jackeye darkened considerably on heating to 100°c : this was not so with the other varieties.

A description of the fruits and the results of the analyses are given below :—

Description of the various Oil-palm Fruits.

Name (local).	Size.	Pericarp.	Nut.	Shell.	Kernels.
Kawei	Large	Thin	Large ...	Thick	Large
Kpolei	Large	Thick ...	Larger than medium ...	Thin	Large
Henoi	Medium	Medium to thick ...	Medium ...	Thin	Medium
Jackeye	Large	Thin	Large ...	Thick	Large
Tugboi	Small	Thick ...	Small ...	Soft and fibrous	Very small

Composition of the Fruit.

Variety. (local name.)	Per Cent. Pericarp in Fruit.	Per Cent. Nut in Fruit.	Per Cent. Oil in Pericarp.	Per Cent. Kernel in Nut.	Per Cent. Oil in Fruit.	Per Cent. Kernel in Fruit.
Kawei	20	80	47·5	19·4	9·5	15·6
Kpolei	58	42	38·5	31·0	22·3	13·0
Henoi	47	53	50·1	31·0	23·5	16·5
Jackeye ...	22	78	39·7	27·0	8·8	21·0
Tugboi ...	74	26	66·5	8·5	49·2	@ 2·0

@ Very small kernels, negligible.

The percentage composition shows that Tugboi is the most valuable of the fruits followed by Henoi. Kawei, the common type, is the least valuable.

10. Investigations by the Imperial Institute.—During the year a number of economic products were examined at the Imperial Institute and the following is abstracted from a report by the Imperial Institute on work carried out on behalf of Sierra Leone during 1924:—

11. Economic Investigations and Enquiries.—Reports on a number of products forwarded by Government officers were furnished to the Government of Sierra Leone during the year as a result of investigations carried out in the Scientific and Technical Department, supplemented when necessary by reference to commercial experts.

12. Palm Oil.—Five samples of oil obtained from various commercial sources in Sierra Leone were forwarded for examination in connection with complaints which had been received by the Lands and Forests Department that shipments of palm oil from the Colony had been found to contain large quantities of water, the presence of which could not be detected when buying the oil. It was also stated to be the practice in certain parts of the Colony to adulterate the oil with substances such as pounded mangrove bark and native-prepared potash, and information as to the presence of such adulterants in the samples forwarded was desired. The examination of the samples at the Imperial Institute indicated that four of them contained excessive percentages of water, but that the oils were otherwise unadulterated.

Information was also furnished to the Commissioner of Lands and Forests regarding the standards of purity recognized in the United Kingdom for palm oil and the methods of determining the amounts of moisture and impurities. Particulars of suitable processes for testing palm oil and of the apparatus required were also supplied.

13. Kogai or Egusie Seed.—This seed is used by the natives as food and a report on its nutritive value was desired. The examination of the sample showed that the seeds contain good percentages of fat and proteins and should therefore be of value as a foodstuff, especially in admixture with materials rich in carbo-hydrates.

This Kogai seed was stated to be derived from a plant belonging to the order Cucurbitaceae and it resembles the seeds of *Citrullus vulgaris*. Several samples of the latter seed from West Africa have been examined at the Imperial Institute and it has been shown that they would find a market in the United Kingdom as a source of oil. The Kogai seed yielded about the same quantity of oil as the *C. vulgaris* seed and the oil was of similar character.

If offered in commercial quantities Kogai seeds would be readily saleable in the United Kingdom and would realize about £17 to £18 per ton delivered in the United Kingdom (May, 1924). It was suggested by the Imperial Institute that the possibility of producing the seed for export might be considered.

14. Kola Nuts.—At the request of the Exhibition Commissioner at Wembly, the possibility of finding an outlet in the United Kingdom for fresh kola nuts was investigated. The results were not very promising, but it was suggested that it might be worth while to forward a trial consignment of the fresh nuts to this country to test the market.

15. Gum Copal.—In connection with a proposal to increase the production of Sierra Leone copal by planting trees on an extensive scale in new areas, information was furnished to the Commissioner of Lands and Forests regarding the demand in the United Kingdom for West African copal obtained by tapping living trees as distinct from the "fossil" variety. Suggestions were also made as to the possibility of cleaning and grading the resin in the Colony in future.

16. Monkey Apple Wood (Anisophyllea Laurina).—In continuation of the investigation referred to in the statement for 1923, a consignment of Monkey Apple ("Kondi" or "Kanti") wood was forwarded in order that its commercial possibilities in the United Kingdom might be ascertained. Mechanical and working tests were carried out at the Institute and specimens were submitted to timber merchants and to manufacturers of furniture and brushes. The wood has a highly ornamental figure, but is rather heavy and has a great tendency to "check" even when carefully dried. The timber merchants were of opinion that it would only be suitable for special purposes, and that in these circumstances it is unlikely that firms would interest themselves in the timber or stock it against possible sales. The furniture manufacturers reported that the wood was too heavy and dense for their purposes, and the brushmakers also offered the same opinion, adding that the liability of the wood to split in manufacture would prevent it from "making up" satisfactorily for brush backs. The prospects of finding a market for monkey apple wood in the United Kingdom are therefore not promising.

17. Elephant Grass.—A sample of elephant grass, forwarded for report as to its suitability for paper-making, was considerably stouter than the African elephant grass previously examined at the Imperial Institute and was probably of older growth. This grass has been found to yield a readily bleachable pulp, producing strong paper of good quality, and the Sierra Leone sample, although thicker and therefore needing more drastic treatment than usual, gave similar results. Specimens of the paper produced in the trials were supplied for exhibition in the Sierra Leone Pavilion at Wembley.

18. Mangrove Bark.—The examination of a sample of mangrove bark showed that, although containing rather more tannin than is usually found in West African bark, it was much inferior to the commercial East African product. Such bark would not be worth exportation but could be used for tanning in Sierra Leone or for the manufacture of mangrove extract.

19. Dyestuffs.—A sample of turmeric resembled the Indian product in general appearance, but the "fingers" were smaller and commercial experts were of opinion that it would probably be difficult to dispose supplies of similar character in the United Kingdom. In reporting on this product, the Institute suggested that a trial consignment might be forwarded to test the market.

Samples of "Njala-wawai" leaves (*lonchocarpus sp.*), which are used by the natives as a source of indigo dye were forwarded in order that their value in comparison with true indigo might be determined. They were found to be identical with a sample of "Gara" from Sierra Leone which was investigated at the Imperial Institute some years ago.

The material appears to contain an unstable indigo-yielding constituent which is readily converted into indigo when the leaves are dried. The present sample contained about 1 per cent. of actual indigo, but no indican or other indigo-yielding constituent could be detected. The leaves would be of no value in the United Kingdom and could only serve for the preparation of indigo in Sierra Leone.

At the request of the Exhibition Commissioner specimens of cotton and woollen yarn were dyed at the Imperial Institute with crude indigo prepared from the leaves and were displayed in the Sierra Leone Pavilion at Wembley.

20. Soil.—A sample of soil, upon which it was proposed to plant cotton and maize, was examined at the request of the Commissioner of Lands and Forests. Recommendations were made as to the manurial treatment required.

21. Ndawei Bark.—A sample of Ndawei bark (*parinarium excelsum*) which is used by various tribes in Sierra Leone for medicinal purposes, was examined, but no evidence was obtained of the presence of any constituents likely to render the bark of interest in European medicine.

22. Fibre.—A sample of Ningei fibre (*Dracaena mannii*) was found to be of short staple and somewhat brittle, and not of much commercial value. The preparation of the fibre for export is unlikely to prove remunerative.

23. Cotton.—Reports were furnished on the quality and commercial value in the United Kingdom of samples of Allen's Long Staple cotton grown experimentally at various localities in the Northern Province. The cotton was on the whole of good quality but rather irregular in length. Such cotton would be readily saleable in the United Kingdon at a price 1*d.* or 2*d.* per lb. in advance of that of "fully good middling" American cotton.

MYCOLOGY.

24. During the month of December, Dr. V. C. Dunlap of Messrs. Elder & Fyffes paid a visit to the Colony and he has very kindly placed his notes on various plant diseases at the disposal of the department. These notes are recorded here and the department is much indebted to Dr. Dunlap for his kindness.

Some of the diseases recorded under were sent to the Imperial Bureau of Mycology for confirmation and suggestions for preventative measures: the report of the Director is incorporated with these notes.

25. Panama Disease in Bananas.—This is a wilting disease of bananas and was found more or less generally where bananas were growing between Freetown and Mano.

Symptoms of the Disease.—Usually the first symptom is the appearance of a yellowing or discolouration of portions of the leaves. This spreads rapidly accompanied by wilt and the leaf droops or breaks down turning a brownish colour. The wilt proceeds from the outer leaves to those within, and often the central ones show no sign of disease while the others are entirely dead. The stalk in young plants often splits longitudinally.

Internal Symptoms.—A cross section of the diseased leaf or stalk shows many of the fibro-vascular bundles to be brilliantly discoloured. At first they are yellow but later turn reddish, then purple and finally black. Old decayed stems have a particularly foul odour.

Examination of one of the vascular stands shows that the xylem elements are affected and discoloured while the phloem is perfectly normal.

The Mycelium of the organism may be found with difficulty in the ducts and in the cells of the xylem. It is best studied by making cultures where it appears as a floccuose white growth bearing large numbers of spherical microconidia and larger elongate three to four celled, sickle-shaped spores.

The disease is common in Central and South America and the West Indies in Gros Michel and other varieties. It occurs to some extent in the Canary banana at Teneriffe.

26. Angular Leaf Spot and Black Arm of Cotton.—Black arm was found by Dr. Dunlap at Njala and by the Agricultural Chemist at Kennema, Boajibu, Panguma and Kangama as well as at Njala.

The organism which causes this disease is known as *Bacterium* (*Pseudomonas*) Malvacearum, Smith.

The symptoms of the disease are as follows:—

On the leaves (angular leaf-spot) it usually appears as irregular-angled reddish, brownish or blackish spots over the surface of the leaf and along the mid-rib, often causing discolouration of the surrounding tissue by cutting off the food supply of the surrounding veins. Yellowish films of bacteria are often present over the upper surface of the spots.

On the stems (black-arm) it first appears as small blackened areas which spread rapidly: in time this blackening surrounds and girdles the stem or branch causing its death. The diseased cortex shrinks and often becomes infected with a secondary organism, a Fusarium sp.

Microscopic examination of diseased patches shows that the surface and the cells of the cortex are swarming with minute rod-shaped slightly-motile bacteria about one micron in length and yellowish in mass. These bacteria are Pseudomonae Malvacearum. This disease causes considerable damage in North and South America and the West Indies. Recently black arm has penetrated into the Sudan where energetic efforts are being made for its control.

The Director of the Imperial Bureau of Mycology supplied the following information with respect to treatment:—

The disease is mainly seed-borne and can be largely controlled by seed sterilisation. In America corrosive sublimate and sulphuric acid are chiefly used, and the method is to stir the seed in strong sulphuric acid until the lint is removed, then wash and dip for ten minutes in 1 in 1,000 corrosive sublimate, again washing and drying before sowing. It has been found that dipping in strong sulphuric acid for fifteen minutes is fairly effective without the subsequent use of corrosive sublimate. In the Sudan these treatments are considered unsuited to the native conditions and one of the carbolic disinfectants has been preferred. The writer saw the latter method carried out on a large scale at Wad Medani (Sudan) last year; the method is simple and easily carried out with native labour. Reports as to its efficacy have not yet been received.

Generally speaking, it is the imported cotton, Allen's Long Staple, which seems to be infected; no report of black arm on indigenous varieties has yet been received.

27. Leaf Spot on Ground-nuts.—This disease found by Dr. Dunlap at Njala is caused by an organism known as *Cercospora personata*.

The first indication of this disease is a slight blanching or chlorotic condition in the leaves. The young leaves are somewhat dwarfed and variegated and present a mosaic appearance. On older leaves circular black spots three to four mms. in diameter appear. Examination of those spots show numerous tufts of short dark-coloured hyphae, bearing large, club-shaped, dark-coloured conidiospores which are three to five celled measuring thirty to fifty by five to six microns.

Cercospora personata may be controlled by spraying with Bordeaux Mixture or by planting resistant varieties.

28. Twig Blight of Kola.—This disease was also found at Njala and is caused by two organisms in association. These are a bacterium (*Pseudomonas sp.*) in association with a fusarium sp.

Symptoms.—The twigs first wilt and then become brownish and discoloured, finally becoming coated with a grayish cottony growth. Those examined microscopically showed large quantities of minute, rod-shaped, slightly-motile bacteria to be present, both on the surface and in the tissues of recently infected portions. These bacteria form a milky film when such portions are mounted on a slide in water. When this primary infection has progressed for a short time, a species of fusarium with long, four to seven septate, sickle-shaped spores appears. This in a short time forms a grayish coating over the diseased twigs.

After a short time the diseased twigs break off but considerable damage is done by the disease, and infected trees present a very unhealthy appearance.

29. Rust and Smut of Rice.—Another disease found at Njala was rust and smut of rice caused by a species of *Helminthosporium oryzae* Breda de Haan.

Symptoms.—Small brownish or blackish spots appear on the leaves and these spots with growth become lanceolate or elliptical and two to four micron long. With age, and as the diseased area advances, the centre of the spot becomes free of fungus growth and paler gray or brownish in colour. Infected spots are surrounded usually by a brownish or salmon coloured area of affected tissue. On the glumes the fungus also appears as blackish spots but in time spreads over the entire glume and gives it a decided "smut-like" appearance. The grain in infected flowers often does not develop at all.

Fructifications of a species of helminthosporium are found in large quantities both on the "rust" spots and the "smutted" glumes. The mycelium is scanty and dark-coloured, six to ten celled and irregularly elongate or club-shaped.

This disease is doing great damage to the rice at Njala practically the entire crop being affected. The organism is very similar to helminthosporium sativum which causes a destructive late blight on barley in the North-Western United States and Canada. *Helminthosporium tritici* is found on wheat in Africa.

Specimens sent to the Imperial Bureau of Mycology were reported on as follows: "This is *Helminthosporium oryzae*, Breda de Haan, and no smut or rust* was found It is a serious rice disease in Japan and occurs in many other places. It is chiefly seed-borne and may be much reduced by hot water treatment of the seed if really severe."

30. Algal Leaf-Spot of Rubber.—The rubber plantation at Njala was found to be infected with an organism known as *Cephaleuros Parasiticus Karst*, which causes an algal leaf-spot of rubber.

Symptoms.—Small roundish brown spots appear on the leaf, surrounded by a narrow discoloured zone. At first, the spot is covered with a brownish furry growth. The spots increase in size sometimes to several centimetres in diameter and are then light gray in colour. Often the spots become irregular and extend to the margin of the leaf.

The fruiting bodies of the organism may not always be in evidence, but they appear periodically as a brownish furry growth near the boundaries of infection. Under the microscope it appears as tufts of erect stout sporangiaphores bearing two to four spherical bodies (sporangia). Both are threads and the sporangia are reddish brown in colour. The vegetative threads extend into the interior of the leaf causing the death of the tissues. The sporangia are filled with many minute spores which are invisible to ordinary powers of the microscope.

This is one of the few algae causing plant disease. It causes "red rust" of tea in India and a bad "die back" of cocoa in Central America and the West Indies. It has been reported as causing injury to leaves of various forest plants.

The Director of the Imperial Bureau of Mycology writes that this had not previously been recorded in so definitely parasitic a form on rubber and adds that with it on the spots, and no doubt helping in causing the latter, is a *Colletotrichum*, no doubt the conidial stage of *Glomerella cingulata*, known elsewhere to cause leaf-spot of rubber. No treatment known.

31. The Division of Research is much indebted to the Director of the Imperial Bureau of Mycology for his assistance in identifying and suggesting remedies for some of the above of Mycology for his assistance in identifyn g and suggesting remedies for some of the above diseases.

ENTOMOLOGY.

32. The Entomologist arrived in the Colony on the 21st June, and immediately on his arrival, several lines of work were indicated, the most important of which was a tsetse-fly survey of the Colony and Protectorate. Other problems requiring immediate attention were "witches broom"-like growths on stenophylla coffee trees and scale pest on coconut, the former is common around Freetown, but nothing could be found on the plants which

* Not a true smut or rust although its appearance has earned it its name.

would account for the "witches broom" growth (the characteristic of affected trees), although mites appeared likely to be the cause. Under these circumstances, and as the rains had already set in, further study was deferred until the dry season, but unfortunately there has been no further opportunity to investigate this disease.

33. The scale pest on coconuts was a more serious affair, and investigations to determine its distribution and devise methods for its future control were at once undertaken. In this connection, the Entomologist made a tour, chiefly in the Southern Province, lasting from 12th July to 8th August, when a general idea of its distribution was obtained. Subsequently (31st October to 2nd December), another tour was made in the Southern Province in order to note the progress of the scale and the effect of the remedial measures advised during the first trek. An account of the scale pest and the measures proposed for its control will be found on page 19 under "Pests on Coconuts."

34. In the interim between the two treks made in connection with the scale pest, a tsetse-fly survey was commenced beginning at Songo and working along the Railway towards Moyamba, the immediate purpose of which was to discover a place suitable for the establishment of a cattle farm. This survey is described on page 24.

35. Early in December the tsetse-fly survey was interrupted by an urgent call to go and investigate the various insect pests found troubling the cotton crop, and from 11th December till the end of the year was spent touring the cotton farms of the Central Province, chiefly those in the Pendembu District. An account of the insect pests on cotton will be found under the appropriate head on page 22.

36. In all, about eighty crop pests of varying importance have been encountered in Sierra Leone, and the unrestricted depredations of these pests must cause a very serious annual loss to the country.

The list of the various crop pests given below must not be considered complete, as only a small portion of the country has been traversed, and that part only during a short period of the year. Different pests will probably be encountered in other districts, while pests which are not in evidence throughout the year may yet be found in those areas already surveyed. Many problems are therefore to be anticipated, and these must be solved before the best returns can be obtained from many of the crops now commonly grown.

If it should be considered desirable to establish and maintain an export trade in such commodities as citrus fruits and the like, due consideration will have to be given to the appearance of the fruit, as this has an important bearing upon its market value. In dealing with such a crop, appearance may even be the deciding factor as to whether a crop can be marketed profitably, and the appearance of many citrus fruits is ruined by the Mussel scale.

A large number of insects have been sent to the Imperial Bureau of Entomology for identification, but owing to pressure of work, this Institution has not yet been able to furnish identifications of all the insects sent. The lists given in the following pages do not therefore include all the pests of importance, and this more especially applies to coconut, cotton, and kola.

In dealing with this list, it has been found convenient to describe the pests attacking each crop under the appropriate crop heading, and these headings are arranged in alphabetical order.

CROPS AND CROP PESTS.

37. Avocado Pear.—Four species of Coccidae and fruit borer have been found on this tree.

38. Banana.—(*a*) Sucking insects Aspidiotus elaeidis, March, and some other species of Coccidae occur; also Camma dilatata, Westw.

(*b*) Defoliators—There are three kinds :—

(*1*) Zonocerus variegatus, L., which becomes more serious as the dry season progresses.

(*2*) A species of lepidoptera, the larvae of which eat the growing points of young plants.

(*3*) Palm Birds—These occasionally tear the leaves into shreds for nesting purposes.

(*c*) Stem borers.—A weevil was found sometimes doing great damage, but it has not yet been identified.

39. Cassava.—(*a*) Sucking insects.

(*1*) A mealybug is very serious in some disrticts causing curling of leaves and preventing growth.

(*2*) Scale insects are occationally of importance.

(*b*) Defoliators—Zonocerus variegatus. Large areas have been completely stripped of leaves by this species.

(*c*) Mites—These are more troublesome in sandy soil such as occurs in Turner's Peninsula, where very serious damage has resulted.

40. Chillies.—A scale has been found similar in appearance and effect to Dinaspis annae (*vide* Citrus). Another scale insect was discovered living on the roots.

41. Citrus Trees.—(*a*) Sucking insects.

(*1*) Dinaspis annae, Malenetti, is of major importance, as it causes the death of the growing points and small branches, and eventually kills the tree. It occurs on grape fruit, lemon, lime and orange.

(*2*) The mussel scale is universally present and is responsible for much of the black appearance of foliage and fruit. This is due to a fungus (sooty mould) which grows in the sugary excreta of the insect.

(*b*) Defoliators.

(*1*) Zonocerus variegatus, L.

(*2*) In one locality, a leaf miner occurred on orange in serious quantity.

(*c*) On fruit. A fruit fly not yet bred out is exceedingly common on orange and grape fruit and ruins large quantities of the fruit.

42. Cocoa.—No pests of importance have as yet been observed.

43. Coconut.—(*a*) Sucking insects.

(*1*) Aspidiotus destructor, Sign (**the coconut scale**). The presence of a serious pest was evident from the appearance of the coconut palms in and around Freetown. It is of some years standing, as it was noted by the Commissioner of Lands and Forests in 1922 as doing serious damage; he sent specimens of the insect to the Imperial Bureau of Entomology who identified it as Aspidiotus destructor, Sign. This insect causes the leaves to turn yellow and die. It spreads very rapidly, and while trekking in the Southern Province, some idea of its dispersion to the east was gained. This scale has many enemies and it was found that in certain places a red fungal growth occurred on the scales in varying quantity, while a white fungus was also present in a few instances. Two species of ladybird beetle have been observed in the act of devouring scale insects and in some places Chalcid parasites were also very numerous. The treatment previously advocated was the pruning or removing and burning of infested palms and other trees, and this was continued until other methods were justified. In certain places where the scale pest was bad, but the enemies to the scale were present such as Rotifunk and Bumpe, both in the Bumpe Chiefdom (Southern Province), all infected trees were allowed to remain in order to see if the natural enemies of the scales—the fungi and the ladybirds—would exterminate the pest. At the end of three months when these places were again inspected, a great diminution of the pest was observed, in fact, at Rotifunk, it was with difficulty that a living scale was found. The fungi were found to be more abundant on the outer leaves so that in those districts where fungus was present, the pruning and cutting of infected plants was discontinued. The spread of the scale and the red fungus was kept under observation and it was found that during a period of ten weeks, the scale pest had spread from Tissana (Shenge) to Rontuk, a distance of fifteen miles, while the red fungus had travelled in the opposite direction from Sulima (Sembehun) to Yandahun, a distance of over twenty miles.

As a result of these observations, artificial dissemination of the fungus was advocated, and a supply was procured from Matin for use in and around Shenge where it was absent and from Rotifunk for Freetown. The results of the artificial dissemination of the fungus have not yet been observed, but it is hoped that the fungus will keep the scale pest under control as soon as it has become universally distributed.

The fungi were identified by the Imperial Bureau of Mycology as—

(*a*) Nectria diploa B.&C., the red fungus, which, according to the Bureau, has not been previously recorded as occurring on coconuts; it was present mainly in its conidial stage (*Pseudomicrocera Henningsii* (Koord.) Petch).

(*b*) *Cephalosporium lecanii Zimm.*, the white fungus which is a cosmopolitan parasite of scale insects and previously recorded on coconut from Seychelles. It mainly attacks, however, species of Lecanium.

The ladybird beetles are *Chilocorus Schiodtei Muls.*, *and C. Dohrni Muls.*, the former predominating. *Hyperaspis Senegalensis, Murr.*, with similar habits, also occurs in places.

It may be stated that the red fungus is far more widely distributed than the white and at present plays a far greater part in the control of the coconut scale pest in this country.

Aspidiotus destructor (the coconut scale) also occurs in Liberia, and it seems probable that the scale has spread from that country to this by one of the following ways:—

(*a*) By sea, to Freetown and the Colony.

(*b*) By land, to the Protectorate. There was a heavy infestation at Pendembu, but the red fungus had accompanied it and commenced its beneficial work.

An important point in connection with this fungus attack is that no fungus has yet been observed on the fruit. Such scales therefore that find a lodgment on the fruit may be easily and widely distributed by transport while the fungus is not disseminated at the same time. This may explain the absence of the fungus in and around Freetown, the scale probably being introduced on the nuts from which the fungus was absent. For this reason all nuts used for planting should be controlled by the Government, and before despatch from a scale infected area to any other part, they should be treated in such a manner as to destroy any scale or other pest that may be present.

For disinfecting, immersion in a 6 per cent. kerosene emulsion was advised, and while it is probable that a rapid dip in pure kerosene would not be detrimental to germination and would obviate the trouble of making the emulsion: this has not yet been tried.

(*2*) Two other species of scale are also capable of killing coconut palms, and where they occur, are quite as serious as Aspidiotus destuctor. Fortunately they do not spread so quickly and the areas of infestation are small. Identifications of these are not yet to hand.

(*3*) Other scale insects present on coconuts are—

Aspidiotus elaeidis, March.
Ctenochiton arborescens, *Lg.*
Selenaspidis articulatus, *Morg.*
Selenaspidis kamerunicus, *Ldgn.*
Pinnaspis buxi, *Bche.*

(*4*) Two sucking insects of the family *Derbidae*, namely, *Proutista fritillaris*, *Boh.*, and *Camma dilatata Westw.*, are also capable of doing damage similar to Aspidiotus destructor, (viz:—causing etiolation and wilting of the leaves) and in isolated cases have almost caused the death of young palms. Another species of Camma, not yet determined, has also been found.

(*b*) Defoliators.

(*1*) *Zonocerus variegatus.*

(*2*) *Pachnoda cordata*, *Drury.*

(*3*) *Coelaenomenodera elaeidis*, *Maulik.*

(*4*) Palm birds do much damage in places and palms sixty feet in height have been killed by them.

(*5*) Dipterous larvae.—At one town, four palms about twenty feet high appeared to be dying, apparently due to innumerable dipterous larvae which lived between the unfolded leaves of the heart. Unfortunately there was no opportunity to breed these out.

(*c*) Borer.

This mainly affects palms during the first four years of growth. No adults have yet been taken.

44. Coffee.—(*a*) On foliage:—

(*1*) Four species of scale insect at times of importance.

(*2*) One species of mealybug.

(*3*) One species of Aleurodes.

(*b*) On berries:—

Araecerus fasciculatus, *de Geer.* This is of interest and may be of importance as it has been recorded as affecting coffee berries, especially in the Congo and can also breed abundantly on stored palm kernels.

(*c*) Witches Broom:

With regard to the disease of stenophylla coffee commonly called Witches Broom, there has been no opportunity of dealing with it. In any case if the trees are well pruned every year immediately after picking, all the portions showing signs of the disease being removed and burnt, the effect of the disease will quickly become negligible.

45. Cotton.—The cotton crop was only under observation during December, but several pests were encountered, seven of the more important of which have not yet been determined. Three of these cause the death of the plant and are responsible for great loss.

(*a*) Sucking insects.

(*1*) Mealybug.

(*2*) Two species of scale insects.

(*3*) Two further species of Coccidae may be present in injurious numbers.

(*4*) Aphis and leaf-hoppers are very serious at times, causing stunting and malformation and probably also contribute to boll shedding.

(*b*) Cotton stainers.

No staining of lint due to these insects has been observed and it is probable that their main effect is the shedding of immature bolls. The common species is *Dysdercus superstitiosus, F.*, but D, *melanoderes, Karsch.*, which it is considered may be a variety of the former, is also present.

(*c*) Defoliators.

Locusts, mainly *Zonocerus variegatus L.*, completely defoliate the plants in places.

Other defoliators are *Trochalus gibbus, F. Diplognatha gagates, Forst.*, and the flea beetles *Nisotra dilecta, Dalm., and N. uniforma, Jac.* A leaf roller is occasionally numerous.

(*d*) On flowers.

Pachnoda cordata, Drury. destroys large quantities of flowers.

(*e*) On bolls.

A species of boll worm causes heavy loss of seed and lowers the quality of the lint.

(*f*) On stems.

There is a limited quantity of galls on the stem, but the insects have not yet been bred out.

One species of insect nibbles a ring generally round the main stem, thus cutting off the supply of food to the portion above, and in any case causing a weak spot. As many as three of these have been seen on the plant, and on the advent of a wind, the stem breaks. There is occasionally recovery, a massive callus being formed. The insect responsible for this has not yet been seen.

(*g*) Mites.

These are not common and only *Paratetranychus gossypii, Zacher*, has been collected.

(*h*) Insects on related food-plants.

In connection with cotton, insects occurring on related food-plants have to be taken into consideration. The most noteworthy of these are :—

Bollworms on *Hibiscus sabdariffa.*

Oxycaraenus fieberi, St. on Crin-crin.

Nisotra spadicea, Dalm on Hibiscus rosasinensis.

Weevils on *Hibiscus sabdariffa.*

In addition, *Dysdercus fasciatus*, Sign. has been met with, though not on its food-plant, while a species of *Oxycaraenus* occurs by the hundred in the seed pods of *Sterculia tragacantha.* This last may prove to be of great importance and if cotton growing is to be extended to any great degree, all these insects will have to be most carefully studied.

No pink boll-worm has yet been seen and arrangements have been made for the fumigation of all cotton seed which is to enter the country. Further it is desirable that all seed should be strictly under Government control if this and other foreign pests are to be excluded.

46. Egg Plant.—Mites and a Lepidopterus defoliator have been found.

47. Kola.—Little attention appears to be paid to the welfare of this crop by the farmers in general, and many good trees are dying in consequence.

In addition to the toll taken by parasitic epiphytes, the majority observed during trek are attacked by a Psyllid, *Udamostigma tessmanni*, *Aulm.*, which does enormous damage by causing the leaf and flower buds to wither and fall with the result that no crop is obtained from some trees, and only a small proportion from others. If the kola throughout the Protectorate is in a condition similar to that already seen, the elimination of this pest should result, at a conservative estimate, in the present crop being doubled.

The following are also serious but have not yet been identified.

(*a*) Defoliator (leaf skeletoniser and sewer) Lepidoptera.

(*b*) A species of Coccid which concentrates its attack on the tips of branches and prevents growth. This is effectually protected and very carefully tended by the ant which makes its nests by fastening leaves together, viz., *Oecophylla smaragdina*, *F.*, subspecies *Longinoda*, *Latr.* Indirectly, this latter is of much importance, as it occurs on many kinds of trees, including Citrus and coconut and protects, other kinds of Coccidae. In the Gambia, this species is reported to destroy certain species of scale, but this is not the case here.

It will be worth while to find a remedy for the ant, as in addition to the damages caused as stated, it greatly interferes with the harvesting of crops. The recently acquired ant trap will be tested in this connection.

The value of the kola crop has declined of recent years but is still considerable, and the exports of fresh kola for the past twelve years are appended:—

Year.	Weight.	Value.
	Tons.	£
1913	1,865	328,003
1914	1,924	279,185
1915	2,041	235,388
1916	2,843	302,720
1917	1,701	321,105
1918	2,302	397,726
1919	2,994	417,378
1920	2,656	626,815
1921	2,540	313,644
1922	2,698	208,196
1923	2,544	187,476
1924	2,539	181,023

Other injurious insects of varying but lesser importance which have been encountered are—

Sucking insects

3 species of scale insect

1 species of mealybug

1 species of Aphis

Defoliator:

Mylabris seminigra, *Voigts.*

On the flowers:

A species of Lepidoptera.

On the fruit:

A weevil.

On the branches.

Engyophlebus obesus, *Karsch.* (twig borer).

The last is of special interest, as it has been recorded from Nigeria as being a serious pest on cacao, and it is possible that it may later similarly affect that crop in this country.

48. Maize.—(*a*) Defoliator:

Epilachna similis, Thb., var. assimilis, Muls.

(*b*) Borer

Not yet bred out.

49. Oil-palm.—(*a*) Sucking insects:

(*1*) *Aspidiotus cyanophylli, Sign.*, is sometimes present in injurious numbers.

(*2*) *Aspidiotus* destructor is also found when in proximity to attack coconuts.

(*3*) Two other sucking insects not yet identified may later prove to be of importance

50. Okra.—(*a*) Sucking insects:

Oxycaraenus sp.

Aleurodes sp.

Aphis sp.

(*b*) Defoliator:]

Leaf roller as under cotton.

(*c*) Stem:

Girdler as under cotton.

Borer.

Gall forming insect.

51. Pine-apple.—Mealybug.

52. Pumpkin.—*Epilachna chrysomelina, F.*

53. Sugar-cane.—*Locris maculata, F. and Camma dilatata.*

54. Sweet and Sour Sops.—Mealybug and various species of scale insect.

55. Stored Products.—Coffee, maize and rice are very seriously affected by insects while in store.

Coffee:

Two species of beetles.

Rice:—

(*1*) *Calandra oryzae, L.*

(*2*) Other species of beetle.

(*3*) One or more moths.

56. Tsetse-fly Survey.—During this work, a zone, roughly five miles wide along each side of the railway, was considered to be a suitable area for the study of fly condition in relation to the establishment of a cattle farm as a site within easy reach of the line was required.

The area was traversed so that, with the exception of some marshy tracts where passage was impossible during the rains, no locality was more than a half-mile from the selected route.. In this way, an area of about 150 square miles between Songo and Rotifunk was covered.

Only two species of fly have as yet been encountered:—

(*a*) *Glossina palpalis*, R. D. This is very numerous on the rivers and creeks, and occasionally in swampy ground, but it does not stray far from water. One interesting point about this species is that during a journey by boat from Matin (Kagboro) to Shenge, they accompanied the boat the whole way, although the distance travelled after leaving land and reaching the open sea was about eight miles.

(*b*) *Glossina fusca.* Wlk. This has only been met with in three localities and at each place only one was seen; they are more active in rainy and dull weather.

The object of the survey was to find an area free of tsetse-fly, if possible, and at the same time possessing other characters suitable for a cattle farm. Observations have only been made during the rainy season, but the most promising districts to date are from Bankafoo (near Mabang) towards Mabang on each side of the line, and from Moyemisoko (near Bradford) westward approaching Foia and Mentone on the south side of the line.

The absence of reliable maps was a difficulty and a great amount of work was entailed in the construction of fresh maps from compass readings.

57. Other Blood-sucking Insects found in Sierra Leone.—Culicidae.

(*Mosquitoes*)

Anopheles costalis, Lw.

Anopheles mauritianus, Grp.

Anopheles mauritianus, Grp. var. paludis Theo.

Anopheles pitchfordi Giles.

Aedes argenteus, Poiret.

Aedes luteocephala, Newst.

Culex consimilis, Newst.

Lutzia tigripes, Grp. var. fuscus, Theo.

Taeniorhynchus (Mansonioides) uniformis Theo.

Taeniorhynchus (Mansonioides) africanus, Theo.

Taeniorhynchus metallicus, Theo.

Simuliidae.

Simulium damnosum, Theo.

Tabanidae.

Chrysops longicornis Macq.

Haematopota furians, Edw.

Haematopota torquens, Aust.

Tabanus besti, Surcouf.

Tabanus besti, surcouf. var. urbucklei, Aust.

Tabanus fasciatus, F.

Tabanus socialis, Wlk.

Thaumastocera akwa, Grunb.

Muscidae

Stomoxys omega. Newst.

58. In 1923, Mr. Dawe collected, among others, the following additional species of *Tabanidæ.*

Hæmatopota grahami, Aust.

Hippocentrum murphy, Aust.

Tabanus brumpti, Surcouf.

59. In conclusion it may be stated that insect pests are causing a great annual loss to the country, and on expansion of banana, cacao, cassava, citrus, coconut, coffee, cotton and ginger growing areas, steps should be taken to prevent the extension of the pests already present, the development of new ones and their introduction from other countries. The desirability of a thorough enquiry into the kola situation is again emphasized.

60. Acknowledgments.—The department is much indebted to the Director and staff of the Imperial Bureau of Entomology, who undertook the determination of insects (about 450 species during the period covered by this report), and rendered other valuable assistance.

I have, etc.,

F. J. MARTIN,
Agricultural Chemist.

PART III.

REPORT ON THE DIVISION OF AGRICULTURE.

SIR,

I have the honour to submit the annual report of the Division of Agriculture for the year 1924.

STAFF.

2. The African staff of the division at the end of the year under review was as follows :—

District Agricultural Assistants :—	
First and second Grades	vacant
Third Grade	C. B. Sandy
,, ...	G. Meama
,, ...	W. D. Sannu
,, ...	E. I. Smith
,, ...	A. Camara
,, ...	S. W. During
Fourth Grade	C. A. Tucker
,, ...	E. Musa
,, ...	J. M. Coker
Agricultural Apprentices	Fourteen
First Clerk	M. H. King
Second Clerk	J. E. Farmer

3. The encouragement given to chiefs and people during 1923 towards the cultivation of their crops on proper plantation lines and improvement of the quality of these for export has been steadily increased throughout the year. Though the Division is still considerably understaffed, much progress can be recorded under each of the projects. These comprise :—

(*a*) Cotton cultivation in the north and east of the Protectorate.

(*b*) Cacao cultivation, particularly in the Southern Province.

(*c*) Coconut planting in the littoral belt of the Southern Province and on Sherbro Island.

(*d*) Swamp rice cultivation on the tidal rivers of the Southern Province and in inland swamps.

(*e*) Ginger cultivation in the Northern Province.

(*f*) Maize cultivation in the Colony and Protectorate generally.

COTTON.

4. Five tons of seed of Allen's Long Staple cotton was imported from Nigeria and distributed principally in the north-eastern part of the Protectorate, in Koinadugu, part of Bombali, Konno and Pendembu Districts. Seed was distributed to paramount chiefs by political officers and demonstration farms were made under the guidance of the agricultural officers. Rougly, there was one demonstration farm of about three or four acres in extent in each chiefdom and the remainder of the seed was issued to headmen of towns and villages to be planted on similar lines. These farms were visited as frequently as possible by the native officers. Almost everywhere the plants developed too quickly and were damaged by the heavy rains before reaching maturity. The yield of cotton has therefore been very disappointing. It is gratifying to find, however, that the quality of the lint, where not damaged by the weather, was excellent. The native has been quick to realize too, the value of this cotton. The fact is of considerable importance in view of future trials. An effort was made to encourage the natives to plant pure crops of the native "Quande" variety as it is hoped to improve this variety under systematic cultivation. The native seed stocks were very impure and the cotton obtained was not of much value. It is a very difficult matter to persuade the native to part with his cotton which he has grown. It is proposed to lay down Government experimental plantations of this variety in the coming season. Through the liberality of the British Cotton Growing Association a small Ginnery was erected at Boia junction. This was opened by His Excellency the Governor on 23rd December, when the first bale of cotton was produced.

The division is very much indebted to political officers of the Central and Northern Provinces for the valuable assistance they rendered in the distribution of seed, purchase of crops, and propaganda generally.

CACAO.

5. The cultivation of cacao on plantation lines in the Southern Province, which commenced in March last, has been steadily extended during the year. District Agricultural Assistants Sandy and Meama were in charge of instructional and demonstration work. In the earlier part of the year nurseries were made at all the larger villages in Gbangbama, Sumbuya, Pujehun and Mano River Districts. Agricultural Assistant Meama reports that in Mano River Districts planting at stake was carried ont on a fairly large scale but without a great deal of success. Later in the year both officers were engaged supervising the making of plantations and demonstrating the correct method of termination. Altogether sixty plots were made in Mano River and Pujehun Districts and fifty-one in Sumbuya and Gbangbama Districts.

Coconut Planting.

6. This project was also commenced in 1923 when a large number of nurseries were made at various places in the littoral belt of the Southern Province and on Sherbro Island. Seed nuts were purchased by the Government and planted in nurseries by the native under the guidance of District Agricultural Assistant C. A. Tucker. During the year 26,000 seed nuts were planted in one hundred and twelve nurseries and later in the year 4,300 seedlings, raised in 1923, were planted out in forty-seven plots. Since 1923 a total of 35,000 seed nuts have been planted in nurseries.

Swamp Rice.

7. The Temne method of swamp rice cultivation as practised on the Skarcies rivers was introduced to the Southern Province last year when a number of swamp farms were made in the tidal areas of the large rivers. Very considerable progress has been made during the year under the supervision of the Temne rice instructors J. S. Bobo, Sam Kamara and Ibrahim Sanko. The most important centres of activity are in Sembehun District on the Bagru Creek in Gbangbama District on the Jong River, at Victoria (Imperri), at Gbangbatoke (Banta) and at Moselo; in Bonthe District, Nongoba Bullom Chiefdom; in Pujehun District on the Wange River and in Mano River District at Sulima. During the early months of the year the instructors supervised the clearing of mangrove and grass from the swamp lands to be cultivated. In March two hundred bushels of Skarcies grown paddy were distributed in these localities and nurseries were made. Transplanting of seedlings to the swamp farms occupied the instructors between June and October and harvest was in progress in some places at the end of the year. Instructor Bobo reports a very satisfcatory crop with prospect of a heavier yield than in 1923 and with the added prospect, of increasing yields in succeeding years. He states also that the people are giving heed to the Instructors and are taking an interest in this system of rice cultivation. Political officers have given much valuable assistance in extending this cultivation.

Ginger.

8. It was decided to introduce the cultivation of ginger to the Northern Province. District Agricultural Assistant Coker was placed in charge of the work. Seed ginger was supplied free by the Government to certain chiefs in Bombali District in the vicinity of the Railway branch line. Demonstration plots were made at twelve centres. The crop was successful and the natives are interested, so much so that when the Acting Director of Agriculture toured in the district in September, he was met everywhere by requests for large supplies of seed for the following year.

The crop in the Central Province was a heavy one and intensive propaganda was carried out with a view to make the growers further improve the quality of the products by a better method of preparation. Unfortunately the standard reached was not high and large quantities of poor quality ginger were freely bought by merchants.

Maize.

9. Further supplies of seed of several South African export varieties have been distributed throughout the country. The results have nowhere been very striking, however. Further experimental work is in progress.

Agricultural Instruction.

10. The revised scheme for the training of agricultural apprentices and teaching agriculture to the senior pupils of the Njala Agricultural Training College was inaugurated in January with the arrival of the European Agricultural Instructor, the late Mr. J. H. Hunter. Mr. D. C. Edwards was appointed to the vacancy caused by

Mr. Hunter's death. He took up the duties early in October. By the end of the year, the work which had suffered in the absence of an instructor, was again in full swing. The erection of a laboratory and reading-room has proved of much value. A report by Mr. Edwards for the year is found under Appendix A.

NJALA EXPERIMENTAL FARM.

11. Annual Crop Trials.—Trials were carried out on cotton, ginger, ground-nuts, legus legumes, maize, ochro, rice, and yams.

The cotton trials gave poor results. Njala is not regarded as a very suitable locality for cotton growing. The crop suffered severely from the heavy rains, and it will be necessary to try planting the Allen's Long Staple variety later in the season, perhaps in August—though the rains are just then at their height.

The soil on the annual crop area of the farm shows signs of becoming exhausted, having now been cropped continuously for over ten years and having received comparatively small amounts of organic manure only, from time to time. This is reflected in the crop yields which are low in all cases. It has been decided to throw these plots out of annual cropping, lime them heavily and plant a green manure crop.

Cotton suffered much damage through insect and fungoid attack.

Ginger gave quite fair results, considering the condition of the soil. Planting was rather late. This is a crop well adapted to the soil conditions of the locality. Njala is in the centre of the ginger country which includes the larger part of Moyamba District.

Root crops were poor. Two varieties of sweet potato gave fairly satisfactory results and trials with these will be continued.

Ground-nut failure through disease was a disappointment as the crop promised very well right up to September.

Maize requires heavy manuring to produce a successful crop. Field selection is essential for the maintenance of a sound stock of seed.

Upland rice yields vary considerably. Plots A to D are poor while plots E to G are fairly satisfactory, considering they were on heavily cropped land. The broadcast method of sowing on plot F gave slightly better results than plot G which was drilled. Plots A to D were cleared bush land, unstumped. The bush was thin and contained a good deal of "kalang" grass. This would account for the low yield from these plots.

Swamp rice trials were on a slightly larger scale than those carried out in the same swamp in 1923. In no case was the high yield of that year obtained, but there is no doubt that rust together with excessive water accounted for practically the whole of the falling-off in yield. With regard to the planting trial for observation on tillering, the results this year are more evenly divided, six plots favouring three seedlings to a stand and six favouring one to a stand. The balance on comparing yields, however, is fairly heavily in favour of one seedling to a stand planting method. Last year it was decidedly so.

Leguminous crops under trial were successful though obtained late for sowing.

Permanent Plantations.—Two of the selected native varieties of oil-palm, "Henoi" and "Kawei," were planted out on small plots for comparative trial.

The Nigerian oil-palm plot is in a very thriving state. Fruit heads are still small, but are improving rapidly. This plot has been of very great interest to every paramount chief who has visited the Experimental Farm.

A new plot of sisal hemp (six acres) has been planted. The old plot is maintained for a supply of suckers and bulbils for distribution.

Coffee was almost a failure following upon the good crop of the previous year.

The lime crop was very much below that of the previous year, particularly in the case of the native variety on the north farm. The trees there are suffering from fungus and scale attack and some thinning out and heavy pruning will be carried out.

Pasture.—The efwatakala pasture was extended and there is now over eleven acres under this grass.

Nursery.—The nursery was kept well stocked and a large distribution of seeds and plants was made (*See* Appendix B). Tomato seedlings were grown on a large scale and distributed in the Colony and Bullom in an attempt to encourage a tomato growing industry.

Visitors to the Experimental Farm.

12. His Excellency the Governor inspected the Experimental Farm in May and the Acting Governor in July. Visits were paid by the Acting Commissioner, Central Province, a number of district commissioners and other European officials, paramount chiefs and Protectorate and Colony farmers.

Experimental Sub-stations.

13. The experimental sub-stations at Batkanu and Yongro in the Northern Province were closed early in the year. The district native officers are not yet capable of conducting crop trials on scientific lines and, moreover, their services have been fully engaged on propaganda and instructional work. These two stations were handed over to the local paramount chiefs.

A model plantation was opened at Zimi, the headquarters of the Mano River Disrrict. This station is under the direction of the District Commissioner and in charge of District Agricultural Assistant Meama. The following crops have been planted :—Coffee (stenophylla, liberica, robusta and canephora), oranges, chillies, maize, three varieties of upland rice and native cotton. The agricultural assistant reported that upland rice yielded on the average twenty-four and a-half bushels per acre ; cotton fair ; maize, Natal Eight Rows variety, good ; Bayliss Corn Flake failed ; chillies poor, owing to late planting.

BRITISH EMPIRE EXHIBITION.

14. During the first few months of the year a considerable amount of time was spent on the preparation at Njala of all kinds of native crops, fruits and fibres for the Exhibition. Consignments of fruit and commercial products were shipped from time to time during the course of the Exhibition. A list of the products and fruits sent is found under Appendix D.

GENERAL AGRICULTURE AND NATIVE CROPS.

15. The following observations are drawn from the reports of political officers and district agricultural assistants.

Rice.—A good crop of both upland and swamp varieties. Price ranged between 7*s*. and 23*s*. per bushel.

Maize.—Crop up to the average. The South African varieties in 1923 were again sown, particularly in the Southern Province and in Pendembu District.

Ginger.—Crop much above the average. Principally grown in Moyamba District, but its cultivation was encouraged in the Bombali District ; 4*d*. to 6*d*. per lb. was paid for prepared ginger at Mano and neighbouring towns. Quality only fair.

Guinea-corn.—Fundi, cassava, egusie and other native food crops were well up to the average in quality and quantity.

Chillies.—The cultivation of this crop showed a slight increase in the Central and Southern Provinces.

Cacao.—A fair crop. 2*d*. to 3*d*. per lb. was paid for fermented beans at Yonnie, Mano Salija, Sulima and Mopalma. Planting was carried out on a large scale in the Southern Province generally. Export, 45,229 lb., valued at £529.

Palm Produce.—The export of kernels was the highest on record, 61,117 tons having been shipped from the ports of Freetown and Sherbro. Palm oil exported amounted to 3,110 tons.

Piassava.—The trade in this commodity improved during the year and considerable shipments were made from Sherbro.

Coffee.—A small trade in coffee is carried on in the Mano River District. Small shipments were made from Sulima and 50*s*. to 56*s*. per cwt. was obtained.

Cotton.—The native cotton crop was below the average. A considerable acreage was planted to Allen's Long Staple cotton. The crop suffered much damage from the heavy rains.

METEOROLOGICAL.

16. Appendix D gives the meteorological statistics recorded at different stations in the Colony and Protectorate during the year. Appendix C gives the rainfall figures for the ten years ending 1924.

I have the honour to be,

Sir,

Your obedient servant,

J. W. D. FISHER,

Acting Director of Agriculture.

Pendembu,

June, 1925.

Appendix A.

From the Agricultural Instructor, Njala, To the Director of Agriculture.

Sir,

I have the honour to submit herewith a report on the work done in connection with the training of the agricultural apprentices and the senior boys of the Njala Agricultural Training College, during the year 1924.

2. The first part of the work was carried out by the late instructor, who arrived at Njala on 11th January and continued his efforts until the unfortunate accident, which caused his death on 21st May, 1924. I have studied his monthly reports, and the correspondence in connection with his work, and have been able to form a rough idea of the work carried out by the apprentices in the early part of the year.

3. The late instructor commenced his lectures on the theoretical work on 4th February, 1924. He started his work with a simple study of plant life, and the elements of plant anatomy for both the apprentices and college boys. He states in his report for February, 1924, that he found the work extremely difficult, chiefly on account of the deficiencies of the general education of the apprentices and college boys, and their lack of any knowledge of English literature, scientific or otherwise. As regards practical work, both sets of boys were put to clear bush for the formation of a model farm, the idea being that they should go through the whole series of practical operations in farming, and that they should also be more under the direct observation of the instructor than when scattered over the main farm.

4. Up to the time of his death the late instructor continued the course on the study of plant life with both the apprentices and college boys, and the practical work consisted of clearing bush for the model farm, and the setting out of plots. In his last report, that of April, 1924, he seems to have been satisfied with the progress made by the apprentices, but in reference to the college boys, he stated that it appeared to him then, that it would be many years before any pupil of the college would be mentally equipped to act as a teacher of any rural school designed to carry out, on a scientific basis, a course in agriculture.

5. From May until my arrival at Njala on 1st October, 1924, the apprentices were under the charge of Captain Fisher, the Acting Director of Agriculture, and received their orders from him or from the Farm Superintendent. The work done was mainly in keeping the model farm in order, and a certain amount of work, such as the hulling and winnowing of coffee, the winnowing of maize, and the extraction of fibre from sisal leaves, was carried out in the store during very wet weather. Of course, no theoretical work was possible, and there was a gap in this side of the training until October, during which period the apprentices seemed to have lost a good deal of the grip they had on the elementary principles which they had begun to study.

6. On my arrival at Njala, I discussed the work of the apprentices with the Acting Director of Agriculture, and then interviewed both the apprentices and the senior boys of the Agricultural Training College, and made an attempt to ascertain the state of their knowledge, by giving them a simple oral test bearing on the principles of agriculture. I found that most of the apprentices had some slight knowledge in this direction, but the college boys with few exceptions, showed very little sign of ever having had any instruction in nature study even.

7. Acting on this information, I drew up a course in elementary agriculture for the apprentices, and another course in agricultural botany and nature study for both the apprentices and senior boys. The latter course has been made as practical as possible, and my examples are taken as much as possible from agricultural crops. In the case of the senior boys, I decided that it was necessary to give them this training in natural science and to encourage them to think and observe for themselves before commencing a course in agriculture, which course I intend to introduce in their second year of study. I found it necessary to start both classes with first principles as even the apprentices, as a whole, were very uncertain of the most elementary scientific facts.

8. The laboratory suggested by the late instructor was completed and furnished during November, and in December a supply of stationery and a certain amount of apparatus arrived and I have been able to commence a course of experiments illustrating the various branches of work for both the apprentices and senior students of the college.

9. As regards practical work on the farm, the greater part of the time of the apprentices is employed in cultivating and tending the experimental plots on their model farm, and they are joined by the fourth and fifth forms of the college on alternate mornings from 6 to 7.30 a.m. I supervise the work during this period, and arrange the work on the farm for the remainder of the day.

10. The model farm consists of an area of 7·5 acres divided into ten plots, three of 1 acre each, one 2·4 acres, two ½ acre, and four smaller plots. On this farm practically all the work is done by the apprentices, and labourers are only employed in case of emergency, as when a crop needs to be harvested quickly to avoid loss, and the apprentices are otherwise employed at the time. We are comparing various rotations on the different plots, and different methods of cultivation are being tested, while the apprentices have an opportunity of practical experience of the various operations necessary in the cultivation of each crop.

11. In addition to this work, each apprentice is on duty at the farm nursery for one month, where he gets an insight into the methods used in this section.

12. Another phase of the practical work is the experience in cotton ginning, which is obtained at the ginnery at Boia. All the ginning is carried out by the apprentices, and in turn they gain experience of each operation in the process. The handling and examination of the different samples of cotton should prove very valuable experience.

13. A small library of reference books and general reading on agriculture has now been instituted, and the books have been placed in the building erected for the purpose. Although it is very difficult to select suitable literature, and many of the books here are rather above the heads of the apprentices as yet, I have every hope that the library will prove very useful in the future.

14. From the experience I have so far gained of the apprentices and the senior college boys, the greatest difficulties seem to arise from defects in their elementary education. This is particularly so in the case of the college boys who, of course, have only had a short period of education in many cases. The written English of the apprentices is one of their greatest weaknesses, and I have made arrangements with the Acting Principal of the college that they should attend two English lectures per week at the college.

15. Some of the apprentices and college boys show a keen interest in their work, and have certainly made progress, and I think that I shall be able to report favourably on them in the course of the next few months.

16. I enclose a plan of the model farm showing the arrangement of the plots, and the crops at present under cultivation. This plan, with the exception of a few alterations and additions, was drawn under the direction of the late instructor.

I have the honour to be,

SIR,

Your obedient servant,

D. C. EDWARDS,
Agricultural Instructor.

DIVISION OF AGRICULTURE,
NJALA,
6th February, 1925.

APPENDIX B.

METEOROLOGICAL READINGS.

Batkanu.

Month.	Shade.		Total Rainfall.
	Maximum, 5. p.m.	Minimum, 9 a.m.	
January ...	93·42	65·90	·30
February ...	94·72	61·24	1·0
March	94·87	66·97	—
April	95·87	67·37	6·10
May	95·67	66·35	13·70
June	93·46	65·2	13·30
July	92·45	65·45	25·85
August	88·51	65·32	18·60
September ...	92·36	65·7	25·20
October ...	92·35	66·06	17·40
November ...	92·0	62·2	10·52
December ...	91·2	57·5	—

Bo.

Month.	Shade.		Total Rainfall.
	Maximum, 5 p.m.	Minimum, 9 a.m.	
January ...	90·4	69·4	0·33
February ...	94·2	67·9	1·26
March	94·26	69·23	3·45
April	92·0	68·5	9·35
May	91·1	69·1	6·50
June	86·2	69·3	18·78
July	82·79	68·74	18·42
August	81·94	69·0	19·02
September ...	82·93	68·93	20·17
October ...	86·32	68·87	15·14
November ...	87·83	67·97	11·41
December ...	88·19	66·56	0·75

Bonthe.

January ...	83·35	70·19	0·10
February ...	90·03	70·48	0·66
March	94·45	72·26	2·70
April	92·17	74·37	4·24
May	92·35	74·61	6·96
June	85·67	73·27	20·46
July	80·87	70·75	34·86
August	82·97	—	29·78
September ...	82·87	—	20·99
October ...	88·0	—	11·08
November ...	89·3	—	6·82
December ...	88·35	70·71	·02

Daru.

January ...	89·4	66·2	1·59
February ...	94·9	67·8	1·60
March	95·4	70·5	2·45
April	93·5	71·4	8·74
May	92·9	72·3	8·14
June	88·3	71·3	11·33
July	85·1	70·6	13·60
August	84·4	70·9	13·60
September ...	85·1	70·5	14·74
October ...	87·45	69·68	19·45
November ...	87·0	69·4	10·66
December ...	87·06	64·16	1·70

KABALLA.

Month.	Shade. Maximum, 5 p.m.	Shade. Minimum, 9 a.m.	Total Rainfall.
January ...	92·77	71·25	·32
February ..	93·77	78·	2·85
March	96·93	76·63	·31
April	94·67	69·93	2·20
May	92·16	70·06	9·39
June	89·43	67·93	13·80
July	87·51	67·32	12·61
August	87·26	66·90	14·91
September ...	87·70	66·70	17·10
October ...	88·13	66·58	11·42
November ...	88·55	67·38	7·09
December ...	82·29	59·13	Nil

KISSY.

Month.	Shade. Maximum, 5 p.m.	Shade. Minimum, 9 a.m.	Total Rain fall.
January ...	87·6	70·8	·11
February ...	88·4	70·4	·84
March	90·	72·8	2·47
April	89·5	74·2	2·25
May	88·77	72·74	7·16
June	86·0	71·8	22·20
July	82·9	71·5	31·90
August	81·4	71·2	33·66
September ...	82·8	71·3	27·07
October ...	86·	70·5	9·85
November ...	86·00	71·4	5·01
December ...	86·5	71·7	Nil

MOYAMBA.

January ...	92·3	64·9	·36
February ...	97·4	66·3	·11
March	97·8	67·4	·72
April	94·9	70·	3·10
May	90·8	68·9	5·39
June	88·9	67·4	25·56
July	81·4	71·8	21·26
August	82·16	70·45	20·42
September ...	84·23	70·53	18·09
October ...	87·	70·6	15·63
November ...	92·7	70·37	2·97
December ...	91·80	69·48	·42

PUJEHUN.

January ...	89·61	68·68	1·23
February ...	92·72	68·41	·34
March	94·90	71·19	2·07
April	90·93	72·57	7·90
May	90·54	73·13	7·70
June	85·43	71·56	18·32
July	83·64	70·72	19·91
August	82·52	70·32	29·22
September ...	81·33	71·4	30·37
October ...	85·48	71·24	10·51
November ...	87·0	71·70	10·25
December ...	88·57	69·83	·13

NJALA.

Month.	Shade.		Total Rain fall.
	Maximum. 5 p.m.	Minimum. 9 a.m.	
January ...	91·16	63·71	·50
February ...	97·68	66·75	Nil
March	97·51	68·40	1·68
April	92·64	63·64	6·57
May	92·80	60·51	5·83
June	90·46	60·30	13·67
July	84·93	66·46	20·69
August	82·22	70·22	16·74
September ...	85·	69·53	25·23
October ...	85·86	68·56	14·08
November ...	91·27	29·40	9·13
December ...	92·10	65·77	2·02

Appendix D.

RAINFALL, BATKANU, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	Average.
January	—	—	—	—	—	—	—	—	—	·30	·03
February	·05[1]	1·04	2·28	—	·25	—[5]	—	—	·05	1·00	·47
March	2·65[2]	2·50	·74	2·95	4·09	·55	·25	·02	1·22	—	1·50
April	9·34	4·55	1·39	4·44	4·41	2·51	2·63	6·13	6·74	6·10	4·82
May	11·45	6·66	8·23	12·81	12·34	5·37	12·58	12·62	6·71	13·70	10·25
June	13·13[3]	14·85	12·32	15·78	18·87	16·42	11·90	13·95	18·10	13·30	14·86
July	19·81	28·15	19·05	16·20	22·39	19·72	23·60	31·63	22·60	25·85	22·90
August	17·07	39·05	30·10	9·39	27·48	13·51	33·07	26·06	22·50	18·60	23·68
September	20·41	20·02	22·35	13·37	16·85	18·35	15·0	18·98	17·60	25·20	18·81
October	15·29	15·59[4]	17·00	15·61	12·04	15·14	19·03	17·71	15·05	17·40	15·99
November	6·40	5·18	11·00	9·93	4·42	10·69	15·93[6]	14·97	9·65	10·52	9·87
December	—	·25	3·20	1·72	·50	—	—	4·10	1·90	—	1·17
Total ...	115·60	137·84	127·66	102·20		102·26	133·99	146·17	122·12	131·97	124·60

(1) No record from 8th to 16th.
(2) Record for 26 days only.
(3) Record for 19 days only.
(4) Record for 24 days only.
(5) No readings taken between 16th & 21st.
(6) No readings taken 11th to 18th.

RAINFALL, BO, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1910.	1921.	1922.	1923.	1924.	Average.
January	—	—	·18	·60	—	—	—	·05	0·19	·33	·14
February	·30	·77	2·20	—	1·02	—	1·22	—	1·28	1·26	·81
March	4·23	5·47	2·90	2·78	2·49	4·84	1·90	·28	2·05	3·45	3·04
April	7·92	3·86	2·66	12·00	5·47	6·00	9·15	7·29	9·67	9·35	7·34
May	15·40[2]	9·27	6·20	9·83	13·01	14·11	7·39	12·92	7·48	6·50	10·21
June	—[1]	8·40	12·44	6·82	17·43	15·90	20·70	13·88	11·39	18·78[3]	13·96
July	—[1]	27·04	13·94	10·81	16·72	23·86	16·63	9·13	19·66	18·42[4]	17·36
August	29·36	21·65	17·84	14·77	25·19	22·97	27·02	16·16	12·37	19·02	20·64
September	23·08	24·76	20·19	25·86	37·36	35·01	16·77	25·81	16·82	20·17	24·58
October	13·30	17·80	12·86	16·90	16·88	13·84	13·85	17·86	17·34	15·14	15·58
November	7·11	5·45	9·78	3·99	—	12·02	7·35	9·39	7·72	11·41	7·42
December	·41	4·28	2·37	·65	3·50	—	1·41	3·66	·51	·75	1·75
Total ...	—	128·75	103·56	105·01	139·07	148·55	123·39	116·43	106·48	124·58	122·83

(1) No returns available.
(2) Record for 26 days only.
(3) Not including June, 1915.
(4) Not including July, 1915.

RAINFALL, BONTHE, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	Average.
January	—	·67	·45	·10	—	·02	—	·02	·02	·10	·14
February	·33	·80	1·89	—	0·12	·22	1·75	—	·54	·66	·63
March	1·78	5·01	·86	3·48	3·90	1·12	·95	—	2·07	2·70	2·19
April	12·49	2·13	1·00	5·37	5·02	4·16	2·81	5·25	4·68	4·24	4·72
May	18·23	9·96	8·62	9·97	13·90	9·03	7·44	7·20	6·38	6·96	9·78
June	39·16	31·20	10·32	24·96	36·30	15·19	13·79	23·40	27·07	20·46	24·19
July	39·76	16·10	20·17	22·17	15·58	30·34	23·84	20·08	23·33	34·86	24·62
August	31·68	20·46	43·54	17·57	26·42	12·71	26·51	24·90	15·47	29·78	24·90
September	33·10	17·25	26·73	25·86	27·68	31·87	19·27	29·74	22·74	20·99	25·52
October	7·50	13·09	9·91	8·17	12·79	9·89	8·51	15·78	17·72	11·08	11·44
November	7·95	4·55	7·36	5·41	3·66	9·50	8·44	14·00	8·66	6·82	7·64
December	·23	2·92	2·17	·92	2·10	·56	2·71	3·45	·06	·02	1·51
Total ...	192·21	124·14	133·02	123·98	147·59	124·61	116·02	143·82	128·74	138·67	137·28

RAINFALL, DARU, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	Average.
January	—	—	·20	·60	—	·21	—	—	—	1·59	·26
February	·27	·46	2·17	·46	·69	2·58	3·32	·36	·16	1·60	2·20
March	8·22	2·18	1·06	8·94	6·84	2·70	3·46	1·54	1·86	2·45	3·93
April	8·08	4·20	7·07	18·55	7·22	4·97	5·76	10·80	6·11	8.74	8·15
May	15·58	9·89	5·20	12·99	8·85	9·31	7·08	10·00	13·11	8·14	10·02
June	9·91	16·05	13·26	11·78	16·45	12·41	14·00	12·47	13·06	11·33	13·07
July	11·13	16·10	13·32	9·92	7·53	7·58	7·11	11·58	18·60	13·60	11·65
August	20·34	14·61	17·85	5·04	11·78	9·60	12·26	11·11	8·05	8·37	11·90
September	14·23	16·78	19·12	11·74	20·36	12·35	13·44	14·33	25·37	14·74	16·26
October	13·91	7·73	6·60	10·03	14·47	20·01	12·44	15·58	9·75	19·45	13·00
November	5·11	9·25	13·55	9·55	6·77	7·90	6·11	9·76	6·36	10·66	8·50
December	1·14	3·16	7·0	1·30	·11	·55	1·83	4·17	·76	1·70	2·17
Total ...	107·92	100.41	106·40	100·90	100·98	90·17	86·81	101·70	103·29	102·37	100·10

RAINFALL, KABALLA, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	Average.
January	—	—	·60	—	—	—	—	·30	—	·32	·12
February	·10	·35	2·79	—	—	—	1·15	—[6]	—	2·85	·72
March	·54	4·48	·25	5·53	1·80[4]	1·15	·95	·50	3·00	0·31	1·85
April	4·46	2·10	2·72	4·71	3·35	4·08	4·50	7·00	4·83	2·20	4·00
May	14·24	5·80	6·55	15·03	13·60	8·65	6·86	4·97	5·44	9·39	9·05
June	14·74	12·29	12·93	6·59[3]	22·41	16·85	10·57	11·60	15·65	13·80	13·74
July	14·91	8·55	16·06	12·27	13·25	14·50	14·58[7]	11·30	14·08	12·61	13·21
August	14·02	15·55	16·16	11·17	13·80	8·02	15·65[8]	15·20	11·90	14·91	13·64
September	20·43	18·76	13·66	10·73	18·23[5]	10·13	17·24	23·14	18·24	17·10	16·77
October	9·44[1]	5·70	14·78	11·99	10·28	9·80	9·60[9]	27·30	12·83	11·42	12·31
November	7·64[2]	·95	10·11	4·27	5·00	4·0	5·10	9·10	10·91	7·09	6·41
December	·15	·54	·99	3·00	2·05	—	—	1·50	1·56	—	·98
Total ...	100·67	75·07	97·60	85·29	163·77	77·18	86·20	111·91	98·44	92·00	92·80

(1) Record for 16 days only.
(2) Record for 28 days only.
(3) Record for 21 days only.
(4) Observations not taken 12th to 27th inclusive.
(5) Recorder absent 3rd to 10th.
(6) No returns.
(7) No readings taken 3rd to 7th and 27th to 31st.
(8) No readings taken 1st to 6th.
(9) No readings taken 17th to 27th.

RAINFALL, KISSY, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	Average.
January	—	—	—	·82	—	—	—	—	—	·11	·09
February	—	·14	·27	—	—	·08	·08	—	1·17	·84	·26
March	1·91	1·90	—	1·69	6·06	—	·32	—	·27	2·47	1·46
April	4·34	3·55	1·70	4·18	2·00	·84	1·44	4·52	6·25	2·25	3·11
May	8·14	2·30	8·03	8·42	7·31	4·98	7·75	4·53	8·55	7·16	6·72
June	10·40	12·96	7·85	15·30	4·60	14·94	11·76	18·42	15·21	22·20	13·36
July	30·30	38·44	17·72	21·75	24·96	44·63	15·08	42·01	31·08	31·90	29·79
August	37·26	24·80	33·95	19·80	24·64	8·73	47·77	32·53	20·74	33·66	28·39
September	48·97	15·84	24·70	17·44	19·31	23·74	19·64	29·28	20·92	27·07	24·69
October	6·02	5·60	4·08	12·20	3·73	8·06	6·85	9·33	17·90	9·85	8·36
November	5·21	2·17	8·18	3·27	3·32	2·67	9·26	7·84	5·00	5·01	5·19
December	·05	1·58	1·38	1·03	—	—	2·40	1·79	·28	—	·85
Total ...	152·60	109·28	107·86	105·90	95·93	108·67	122·35	150·25	127·37	142·52	122·27

RAINFALL, MOYAMBA, 1915–1924.

Month.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	Average.
January	—	—	1·08	·99	·06	1·85	—	·13	·08	·36	·46
February	·35	·43	1·43	—	·53	—	1·09	—	·61	·11	·46
March	1·36	4·66	·75	3·27	2·19[1]	·83	·52	·72	1·64	·72	1·67
April	5·38	1·13	4·51	4·85	4·41	2·54	3·80	3·01	2·88	3·10	3·56
May	11·32	13·44	3·90	7·32	11·09	10·46	7·33	9·39	9·58	5·39	8·92
June	12·97	15·82	9·83	14·22	9·13	15·58	9·54	10·56	12·06	25·56	13·53
July	16·74	27·31	14·85	12·28	13·32	40·55	12·81	16·79	16·29	21·26	19·22
August	16·69	17·80	26·49	12·09	18·82	11·50	30·76	19·01	20·11	20·42	19·37
September	16·84	22·37	15·73	11·39	15·61	70·28	15·57	19·35	18·58	18·09	22·38
October	11·71	14·92	13·49	9·77	13·48	16·34	11·26	11·02	15·24	15·63	13·29
November	5·44	3·68	7·21	6·71	5·21	8·73	9·38	8·26	7·99	2·97	6·56
December	·64	4·71	1·98	·18	·73	—	·65	3·33	2·79	·42	1.54
Total ...	99·44	126·27	101·25	83·07	94·58	178·66	102·71	101·57	107·85	114·03	110·96

(1) Observations not taken from 2nd to 6th and from 26th to 29th inclusive.

PART IV.

REPORT ON THE DIVISION OF FORESTS.

From the Conservator of Forests
To the Honourable the Commissioner of Lands and Forests.

Sir,

I have the honour to submit the annual report of the Division of Forests for the year 1924.

NATURAL FORESTS.

2. The following statement shows the reserves and restricted areas constituted in the Colony and Protectorate up to the end of the year, and in the case of the reserves, their respective areas. The restricted areas have not been surveyed, so the square mileages shown are merely estimates. There are in addition, certain water catchment areas in the vicinity of Freetown, largely maintained under forest, but these are not under the control of this Division and so no account of them is given in this report.

	Reserves.	Restricted Areas.	
Colony.			
Colonial	73·39	—	
Leicester Peak ...	·23	—	
Protectorate.			
Kessewe Hills ...	9·01	Bumpe ...	30
Kambui	56·00	Ribbi ...	12
Nimmini North ...	48·50	Yonni East ...	1
Nimmini South ...	10·03	Kholifa Mabang	1
Dodo	8·40	Yonni West ...	1
Gobo	4·46	Sennehun West	8
Kangari	33·10	Bafi and Sewa ...	—
Moyamba Hill ...	·73	Rivers ...	20
Bojene	2·85		
South Kambui ...	3·36		
Gboi	·79		

3. The area of constituted reserves in the Colony therefore remains 73·62 square miles and in the Protectorate it is increased to 177·23 square miles, making a total of 250·85 square miles. The added areas are South Kambui (3·36 square miles) and Gboi (0·79 square miles). The former lies in the Southern Circle and its main object of management for the present will be that of a protection forest; together with the Bojene Hills and the main Kambui range it will help to form a check on the effects of denudation which is already very marked immediately to the West of this region. The Gboi Reserve lies in the Eastern Circle near Pendembu and its primary purpose will be to protect a water catchment area for that important town.

4. The preliminary surveys and partial demarcations undertaken during the year were :—

(*a*) Proposed Gola North Reserve. This lies in the Southern Circle and about 28 miles of boundary was demarcated in the Nomo Chiefdom by the year's end. When completed, the total area of the reserve will approximate to 75 square miles.

(*b*) In the Eastern Circle the preliminary survey of two areas suitable for reservation was carried out, one being the Gori Hills forest which is reported to cover an area of about 100 square miles on the borders of Konno and Pendembu Districts and the other a smaller area in the Kolu Yeyei Hills adjacent to the Gboi Reserve.

(*c*) In the Northern Circle, the preliminary survey of a tract of forest on the borders of the political districts of Koinadugu, Bombali and Konno was carried out early in the year. The demarcation of the major portion, named the Tonkoli Forest, was completed during the year and about thirty miles of boundary of the lesser portion, named the Tama Forest, was also cut and surveyed. The area of the proposed Tonkoli Reserve is 170 square miles, exclusive of fourteen square miles set apart to serve as farming land for a number of small villages situate in the forest. An estimate of the extent of the proposed Tama Reserve gives the area as being about forty square miles.

5. Further work was also done on the two important reserves in the Southern Circle, named Gola East and Gola West. These were demarcated in 1923, but their being formally constituted was held up, firstly by a legal technicality and later by objections being made to certain portions of the proposed boundary necessitating these parts being re-sited and the areas slightly reduced. The Reserve Settlement Commissioner held his final enquiry and gave his judgment in October, 1924, but as the Governor's Order constituting the Reserve did not issue during the year these areas cannot be shown as being constituted reserves in 1924.

6. The following table summarises the position of controlled forest areas at the end of the year, including those areas the demarcation of which was completed, though they had not been constituted as reserves.

	Constituted square miles.	Percentage of total area of country (27,250) square miles).
Reserves	250·85	·92
Restricted areas	73·00	·26
	323·85	1·18
Demarcated but not yet constituted in 1924 :		
Gola	88·00	
Gola	23·60	
Tonkoli	170·00	
	281·60	1·03
Total of protected forest areas :		
Reserve and restricted areas ...	605·45	2·22

The increase of reserved areas is thus 4·15 square miles and the increase of total of protected areas is 170·00 square miles, as compared with the respective figures 36·68 and 159·53 for the previous year.

Examination of Forests.

7. Except for a little work done in the Tonkoli Forest and interrupted by the rains, no further progress was made with enumeration surveys, but a form for collecting this data was drafted and approved which will ensure uniformity of method in the various circles. In the Tonkoli Forest it was found that the species of trees were "of much the same range as those met with further south, though the proportion of one species to another showed a variation. Again, certain species that are common further south are rare or absent from the Tonkoli Forest, while a greater number of xerophilous and fire resisting species were found. A common tree in this forest is the *Funtumia africana*, which yields a light and easily worked timber, particularly suitable for making packing cases. Like many other soft woods it is subject to attack by borers if left lying in the forest, but if exploited there is no reason why it should be exposed to this damage. There are many other timbers of economic importance in this tract, but on account of their comparative weight and the present inaccessibility of this region they cannot be profitably extracted.

8. Under this heading might be included the examination of the Kambui Reserve to ascertain if certain specific timber requirements of the Railway Department could be met.

Exploitation of Forests.

9. The division undertook to supply from the Eastern Circle approximately 40,000 board feet of scantlings for the use of the Railway Department. A total of 35,984 feet was cut and 18,492 feet were taken over by the Railway Department up to the end of the year. The cutting and extraction of this quantity with primitive appliances presented many difficulties. The terrain in these hill forests is very rugged and broken and it is very heavy work to move timber by hand from such places. Again, it is difficult to get pit-sawyers to work regularly even when well paid, and the quality of their work entails much waste of timber when it comes to be worked up later. Further, it was found that the cost of extraction was more than double the price of $2\frac{1}{2}d.$ per foot at which this timber was transferred. It is important that this branch of forest work should be placed on a more permanent footing. The conditions of working are too difficult in this country to attract any lumber firm and so extraction must continue for some time to be done by Government. The matters that require attention are the provision of suitable mechanical appliances for conversion and extraction, the examination of forest areas that are accessible, and the drawing up of a policy of reafforestation.

10. A number of billets of *Polyadoa Elliottii* which resembles the boxwood of Europe, were extracted to be made into staves for local Police Force.

11. Minor Produce.—Licences for the tapping of gum copal were issued in the latter months of 1923. As the gum is allowed to dry on the trees until the end of the dry season its collection took place in the year under review. The total amount exported was 68,303 lb., which is an increase of 17,055 lb. over the export in 1920, when its exportation was last permitted. The increase is satisfactory as showing that the yield is increasing as a result of the measures taken to protect the trees against the uncontrolled and destructive tapping formerly practised.

Legislation.

12. A Forestry (Amendment) Ordinance, No. 3 of 1924, was passed permitting a Reserve Settlement Commissioner to accept the assistance of an accredited representative of a paramount chief who is unable to attend in person a Reserved Settlement Court held in respect of lands in his chiefdom. Governor's Orders constituting the Gboi and South Kambui Reserves were issued.

Herbarium.

13. This has been maintained and added to by the officers of the division, a number of specimens being sent to Kew for determination.

ADMINISTRATION.

14. Staff.—Conservator of Forests.—This office continued to be in abeyance during the year and the Commissioner of Lands and Forests was in charge of the division.

Senior Assistant Conservator—K. G. Burbridge: Assistant Conservators—E. Macdonald, D. G. Thomas and A. Burns. Mr. Burbridge was on vacation leave from the commencement of the year and later was seconded to the British Empire Exhibition at Wembley as Assistant Exhibition Commissioner in the Sierra Leone Pavilion. He returned to duty in Sierra Leone on 22nd November. Mr. Macdonald was on vacation leave at the commencement of the year and resumed duty on 1st March. Mr. Thomas was at duty throughout the year. Mr. Burns arrived from England on the 19th January and assumed the duties of his appointment on that date. No clerk was allotted to the division, much routine office work having thus to be performed by the Circle officers.

15. Sub-division of Administrative and Executive Function on a Territorial Basis.—On 1st January the new system of sub-dividing the country into four forest working circles came into being. These were termed the Western, with headquarters at Mabang; the Southern, headquarters—Gorahun; Eastern, headquarters—Kennema; and Northern, headquarters—Makeni. The Senior Assistant Conservator was posted to the Western Circle and Messrs. Macdonald, Burns and Thomas to the other Circles in the order named. Even with the insufficient staff this scheme of decentralisation and of giving each officer a definite territorial charge proved a vast improvement over the previous unorganized manner by which particular operations were conducted by different officers in successive years. This new organization, however, does not make the office of Conservator redundant. It is very important that the circle officers should devote their time entirely to the work of their charge, and when in any difficulty should have the guidance and assistance of a superior officer. It is also all important that a watchful eye be kept on the work of the circles and operations should be planned out ahead and an effective control kept on expenditure to the end that money is not wasted by undertaking operations at unsuitable seasons. It was unfortunate for this division that the services of the head of the department and of the senior officer of the division were sacrificed to Wembley simultaneously.

Revenue.

16. Licences:

	£	s.	d.
Timber, etc., cutting of	62	11	0

Expenditure.

17. Personal Emoluments:

Salaries	2,745	4	4
African Assistant	2,222	15	9
Allowance in lieu of quarters	3	12	10
Seniority pay	30	5	0

Other Charges:

Contingencies	35	1	7
Labour	685	12	1
Seeds and seedlings	nil		
Surveying instruments	41	8	5
Tools	45	3	2
Transport and travelling allowance	1,019	18	10
Conveyance allowance	140	2	6
Uniform for forest guards	146	11	6
Tents	71	5	9
Library	nil		

GENERAL.

18. Although the fresh area formally reserved in 1924 is insignificant, it is satifactory to record that the total area of protected forest is now over two per cent. of the total area of the country and that this area may be expected to come under effective control in the present year. Taking 1912 as the year of commencement of forest reservation, the average annual area brought under protection has in 1924 attained to 46·57 square miles, as compared with the figures 26·21 and 25 for the previous two years. There remain in the Mano River, Konno and Koinadugu Districts four considerable tracts of forests which have been examined and reported upon as suitable for reservation. These will engage the attention of the division up to the end of 1926.

19. The department having now been in existence for thirteen years and considerable recovery having been made of the ground lost in reservation work owing to the Great War, the time is more than ripe for the consideration of several matters of permanent and far-reaching effect. The most important of these is the building up of an efficient native staff. Another and still wider subject is the drawing up of working plans for the more accessible reserves and the initiation of a policy of reafforestation to meet the future timber needs of the country. Such undertakings as these cannot be brought into working order without the lapse of years, and it is for this reason all the more urgent that they should receive early consideration.

I have the honour to be,
SIR,
Your obedient servant,

D. G. THOMAS,
Acting Conservator of Forests.

MAKENI,
7th June, 1925.

PART V.

REPORT ON THE DIVISION OF PLANTS AND PRODUCE INSPECTION.

From the Inspector of Plants and Produce

To The Honourable the Commissioner of Lands and Forests.

Sir,

I have the honour to submit the annual report for 1924 on the Inspection of Plants and Produce Division of the Lands and Forests Department.

I—STAFF.

2. The Inspector of Plants and Produce, Mr. G. Tuach, was in charge of the division throughout the year.

African Sub-Inspectors.—Messrs. S. T. Maddy, Lassi Inga and Binneh Fabundeh were on duty throughout the year.

II—TOURS OF INSPECTION.

3. In January and February the Inspector toured in the ginger areas of the Central Province and gave practical demonstrations to the farmers in the proper method of peeling, drying and bleaching of the root. During March and April he toured in the Southern Province and reported further improvement in trade and in the quality of palm produce. From May to the end of July he was engaged in Freetown in connection with the felling of dead and diseased coconut trees. In August he toured in the Central Province from Mano to Pendembu and reported a considerable improvement in the quality of the produce. In September he inspected and submitted a favourable report on the trade centres on the branch line between Boia and Makeni. He toured in the Port Lokko District during October and during November and December was again engaged on ginger propaganda work in the Central Province.

III—TOURS OF INSPECTION BY SUB-INSPECTORS.

4. Sub-Inspector S. T. Maddy was responsible for the inspection of produce in the Freetown area throughout the year. He was appointed an inspector under scale pest measures early in the year and in this capacity toured through the villages of the Colony. In conjunction with his produce inspection duties, he assisted in the supervision of the felling of dead and diseased coconut trees in Freetown. He obtained nine convictions for offences against the "Native Produce Ordinance" and was responsible for the seizure of a considerable quantity of adulterated produce.

5. Sub-Inspector Lassi Inga was for the first nine months of the year responsible for the inspection of produce in the Northern and Central Provinces. During that period he toured each province alternately and reported six persons for offences against the Ordinance, all of whom were convicted. In October he was transferred to the Southern Province, where he toured constantly until the end of the year. He obtained convictions against sixteen persons in this province against the Ordinance.

6. Sub-Inspector B. Fabundeh was responsible for the inspection in the Southern Province from January to September. During that period he toured in each district of the province alternately and reported eight persons for contravention of the Ordinance, seven of whom were convicted. He was transferred to the Northern and Central Provinces in October, where he toured until the end of the year.

7. The following is a return of convictions and fines imposed during the year :—

Number of persons reported	44
Number convicted	36
Number discharged	3
Number not dealt with at end of year	5
Total amount of fines	£107 2*s.* 6*d.*

In addition to the above, quantities of adulterated palm kernels amounting to a total of 104 bags were seized and destroyed under section 9 of Ordinance No. 8 of 1917.

IV—REVENUE AND EXPENDITURE.

8. The following is a statement showing the revenue and expenditure during the year :—

(*a*) REVENUE.

	£	*s.*	*d.*	£	*s.*	*d.*
Produce licences	1,146	14	10			
Fines	107	2	6			
				1,253	17	4

(*b*) EXPENDITURE.

	£	*s.*	*d.*	£	*s.*	*d.*
Personal Emoluments	607	0	3			
Other Charges	321	1	8			
				928	1	11

There was an increase of £34 in the revenue obtained from produce licences in 1924 as compared with 1923. There was, however, a decrease of £353 as compared with the estimated amount. This is, to a great extent, due to the fact that in certain district fees were charged which were not in accordance with the Regulations governing licences. The fact had been overlooked that the provisions made in the Regulations for proportionate fees to be paid for the renewal of licences only applied to 1923, also the Regulations had been misinterpreted with regard to the issue of half-yearly licences.

V—PRODUCE INSPECTION.

9. The inspection of palm kernels under the Native Produce Ordinance, 1917, was carried on unremittingly throughout the year and a good standard of produce was maintained. There was a considerable decrease in the number of convictions obtained for contravention of the Ordinance as compared with the previous year. This is satisfactory, as it is evidence of the fact that greater care is being taken by traders and of the improvement in the quality of the produce.

With the object of further improving the quality, the writer recommended that the percentage of shell and dirt allowed in kernels be reduced by 1 per cent. and that provisions be made in the Regulations whereby decayed kernels could be classified as adulterants. This was approved but has not yet been passed.

It was also recommended that legislation be passed for the compulsory protection of waterborne kernels. This would undoubtedly have proved of considerable advantage in the Sherbro District and would have reacted favourably on the quality of the produce. It is unfortunate therefore that the motion was not carried.

VI—EXPORT OF PALM KERNELS.

10. The export of palm kernels for the year was the highest on record. The previous record being exceeded by nearly 2,000 tons. The prices throughout maintained a high level, the average being approximately £18 per ton.

11. The following figures show the export of palm kernels from Freetown and Sherbro during the year 1924 :—

FREETOWN.		SHERBRO.		TOTAL
WEIGHT, Tons.	VALUE, £	WEIGHT, Tons.	VALUE, £	Tons.
44,378	805,707	16,739	290,679	61,117

The exports for the preceding years were as follows :—

1918, Tons	1919, Tons.	1920, Tons.	1921, Tons.	1922, Tons.	1923, Tons.
40,816	50,622	50,425	40,409	49,029	59,545

VII—GENERAL.

12. Although palm kernels are still the only product which comes under inspection, considerable work was done with a view to improving others, particularly ginger and piassava.

GINGER. Extensive propaganda was commenced by the Honourable the Commissioner of Lands and Forests (Mr. Dawe) in November, 1923, with a view to improving the 1924 ginger crop. In this connection the Inspector of Plants and Produce toured through the ginger growing districts, giving practical demonstrations in the proper method of peeling, drying and bleaching of the root.

At the close of the 1924 ginger season the Inspector of Plants and Produce wrote :—

> "The producers took a keen interest in the demonstrations and, as the quality of the ginger marketed during the early part of the season showed, they succeeded in producing ginger which compared favourably with some of the better qualities from other countries. Towards the end of the season, however, when producers realized that purchasers made little or no difference in the price of well cleaned ginger over and above uncleaned ginger, they very naturally ceased to prepare their ginger in the approved manner. They however continued in most cases to dry the ginger on raised platforms as demonstrated to them, instead of on the ground as was formerly their practice, which fact in itself contributed greatly to the improvement of the 1924 crop on the whole.

> "The exceptionally high prices which reigned throughout the season for Sierra Leone ginger were admittedly not entirely due to the efforts of the Lands and Forests Department but, had there been no improvement it is only reasonable to suppose that prices would not have been so high. At all events the main object of the propaganda has been achieved in as much as it has proved that the Sierra Leone native, if he wishes, can produce ginger of a quality such as can compete successfully with that from other countries, and, with the passing of a Bill for the standardization of produce a greater improvement than has already been observed may well be expected."

Similar efforts were made at the latter part of the year with a view to further improvement for the 1924–1925 crop. It is doubtful, however, if this will be met with any appreciable success without being backed up by legislation governing the quality allowed to be exported.

It was intended that a Bill for the standardization of ginger be passed to come into operation before the end of the year. This Bill was however not accepted by the members of the Chamber of Commerce who were not in favour of any restrictions being made as regards the quality allowed to be exported.

13. The exports of ginger in 1924 greatly exceeds 1923 as will be seen from the following return :—

——	Weight Cwt.	Value. £
1923.	27,718	45,974
1924.	38,847	105,633

14. PIASSAVA.—There was a decided improvement in the piassava trade during the year. Prices ranging up to £17 per ton being paid in the Sherbro District. The quality of the fibre has not however improved to any appreciable extent : the high prices offered resulted in a hurried preparation of the fibre.

During the year retting trials were carried out in the Southern Province with a view to ascertain the minimum time necessary to facilitate the proper separation and preparation of the fibre. These trials were not entirely successful owing to the lack of constant supervision. They however proved that the piassava obtained from both *Raphia Vinifera (Nduvoi)* and *Raphia Gaertneri (Kali)* are of equal value if properly prepared, also that the best results are obtained from leafstalks which have been split into longitudinal sections before being retted. This allows of a quicker penetration of water and subsequently a shorter retting period.

15. PALM OIL.—It has now become necessary to bring palm oil under inspection. Numerous complaints were received from merchants on the quality of the oil exported. Samples of oil collected locally were forwarded to the Imperial Institute for examination. A report from that Institute was received which stated that the oil contained high percentage of free fatty acids ; no adulterants except water being present. The oil to which these complaints referred was purchased in Freetown from local traders, no complaints were received in regard to Sherbro oil.

VIII—SCALE PEST MEASURES.

16. The reappearance of the Coconut Scale Pest was evident in the early part of the year and it was decided to fell within the limits of Freetown all dead or otherwise diseased coconut trees which were considered dangerous to climb and prune.

The cost of felling these trees was borne by the Government. I attach hereon a statement showing the number of trees felled and the amount expended in connection therewith :—

			£	s.	d.
Dead trees	231	Cost	75	1	6
Tall and dangerous	341	„	102	6	0
Borassus palm	1	„	1	0	0
			£178	7	6

17. The pest has now almost disappeared. All surviving trees have a healthy appearance. A recurrence is not anticipated as the natural enemies of the pest appear to have gained control.

18. In conclusion I desire to express my appreciation of the manner in which the sub-inspectors have performed their duties throughout the year.

I have the honour to be,
SIR,
Your most obedient servant,

GEO. TUACH,
Inspector of Plants and Produce.

FREETOWN,
13th March, 1925.

PART VI.

SIERRA LEONE'S PARTICIPATION IN THE BRITISH EMPIRE EXHIBITION, 1924.

As the British Empire Exhibition is being continued in 1925, it is desirable to defer a general report on Sierra Leone's participation until the close of the Exhibition, when a full account can be given and the results reviewed. It is felt however that this department's annual report would be incomplete without a brief account of Sierra Leone's representation in 1924 in view of the fact that the Sierra Leone section came under the management of this department.

2. INVITATION TO PARTICIPATE.—The invitation to Sierra Leone to participate in the British Empire Exhibition was conveyed by the Secretary of State in a Circular despatch dated the 5th March, 1922.

3. DECISION TO PARTICIPATE.—On 12th July, 1922, the Legislative Council unanimously passed the following resolution :—

> "That this Council considers that Sierra Leone Colony and Protectorate should participate in the British Empire Exhibition to be held in England in 1924 and agree to make the necessary provision for the purpose in due course."

This was communicated to the Secretary of State by cable with a request for the reservation of the necessary space.

4. SIERRA LEONE'S REPRESENTATION.—Sierra Leone took part in the Exhibition in conjunction with Nigeria and the Gold Coast, the three Colonies forming the West African Section. A special West African Group Committee was formed in London to organize the representation of this Group. This Committee consisted originally of—

Sir Henry Galway, K.C.M.G., D.S.O.
R. A. Maude, Esq., representing Sierra Leone
Sir Francis Fuller, K.B.E., C.M.G., representing Gold Coast
C. E. Dale, Esq., C.M.G., C.B.E., Representing Nigeria
P. H. Ezechiel, Esq., C.M.G.
Sir Walter Egerton, K.C.M.G.
Sir Arthur Young, G.C.M.G., K.B.E.
} Colonial Office nominees.
Lady Guggisberg, C.B.E. (Exhibition Commissioner for Gold Coast)
D. C. Cameron, Esq., C.M.G. (Nigeria)
L. A. Smart, Esq., London Chamber of Commerce
Pickering Jones, Esq., Liverpool Chamber of Commerce
H. M. Lewis, Esq. (Gold Coast)
J. T. Furley, C.M.G., O.B.E. (Sierra Leone)
H. S. Goldsmith, Esq., C.M.G., Chairman
Major C. T. Lawrence, Exhibition Commissioner for Nigeria
W. Addison, Esq. (whilst representative of Sierra Leone)
M. T. Dawe, Esq., Exhibition Commissioner for Sierra Leone.

5. STANDING EXECUTIVE SUB-COMMITTEE.—The general "group" business was subsequently conducted by the Standing Executive Sub-Committee which comprised the Exhibition Commissioners for the three Colonies under the chairmanship of H. S. Goldsmith, Esq., C.M.G., Commissioner of the West African Section.

6. LOCAL COMMITTEE.—On 14th April, 1923, in a special issue of the *Sierra Leone Royal Gazette*, was published the following minute by His Excellency the Governor :—

> "The British Empire Exhibition will be held at Wembley Park, London, from April to October, 1924. It is planned on an unprecedented scale, and is intended to be representative of every aspect of the life of the Empire.
>
> "The main purpose of the Exhibition is to take stock of the Empire's resources, whether latent or developed, to bring these resources vividly to the notice of a vast number of people from all over the world, and so encourage the development of existing markets, or the formation of new markets, for the better absorption of the Empire's products. If new avenues of trade and communication can be developed, the result will go a long way to repair the material losses of the Great War, and must also exercise a corresponding reaction on the individual prosperity of every Colony participating.

"The Exhibition is further designed to promote a more accurate knowledge of the varying conditions under which the members of the British Commonwealth of Nations live. Even now, for example, the West Coast of Africa is still associated in the public mind far more with its climatic reputation than with the vast potentialities of its natural resources. The correction of such disproportionate ideas must tend both to a quickened trade, and to a more enlightened attitude towards the problems of the various parts of the Empire. The Exhibition, in short, will, it is hoped, have a moral as well as a commercial value.

"It will, I am confident, be the general desire that in this great enterprise the Colony and Protectorate of Sierra Leone shall be as worthily represented as her means permit. The Colony has a unique history which has always stirred the imagination of those familiar with it, but there can be no doubt that its resources, and more especially the resources of the 27,000 square miles of Protectorate behind the Colony, are little known outside a very small circle. The Exhibition will afford an excellent opportunity for rectifying this.

"To this end, the Legislative Council has agreed to vote the necessary funds, and a local committee and section officers have been appointed, who will be responsible for the selection and preparation of exhibits for the Exhibition.

"I hope that all heads of departments, all political officers and chiefs, and the general public, will give every assistance in their power to the members of the committee, and thus further by their goodwill and co-operation the development and progress of the Colony."

A. R. SLATER,
Governor.

LOCAL COMMITTEE.

Hon. Captain W. B. Stanley, C.M.G., M.B.E., Freetown (Chairman of Committee)
Hon. P. F. Barton, Esq., V.D., Freetown
Hon. J. C. Newton, M.B.E., Freetown
M. T. Dawe, Esq., Freetown
Hon. J. I. Lauder, Esq., Freetown
A. S. Bradshaw, Esq., Freetown
W. W. Dunlop, Esq., Freetown
Professor J. Abayomi Cole, Freetown
B. W. Davies, Esq., Freetown
J. A. Songo Davies, Esq., Freetown
D. C. Thompson, Esq., Secretariat, Freetown (Local Secretary)
J. M. Williams, Esq., Secretariat, Freetown (Assistant Local Secretary)
J. D. Dimock, Esq., M.R.C.S., L.R.C.P., Freetown (Photographic Secretary)
P. W. Clemens, Esq., Treasury, Freetown (Financial Secretary).

7. SECTION OFFICERS.—In addition to the Local Committee, section officers were appointed for the collection of exhibits for the various sections; these were the Provincial Commissioners, District Commissioners, the Assistant Director of Public Works, the Commissioner of Lands and Forests, the Director of Agriculture, W. W. Dunlop, Esq., and Professor J. Abayomi Cole.

8. LONDON REPRESENTATIVE.—Mr. W. Addison, D.C.M., retired District Commissioner, was appointed Sierra Leone's representative in London from 1st July, 1923, to look after Sierra Leone's interests and to supervise the work at Wembley and to receive the exhibits, etc., until the arrival of the Exhibition Commissioner.

9. LONDON COMMITTEE.—In November, 1923, the Governor appointed a London Committee for Sierra Leone consisting of—

Capt. W. B. Stanley, C.M.G., M.B.E.
Mr. W. Addison, Sierra Leone Representative
Mr. A. S. Bradshaw, Assistant Director of Public Works.

On the return from leave of Mr. Bradshaw and the arrival in London of the Exhibiton Commissioner the Committee ceased to function.

10. SHIPMENT OF EXHIBITS.—The exhibits were received by the Lands and Forests Department at Freetown, checked, labelled, listed and packed with the assistance of the Secretary (Capt. D. C. Thompson) and Financial Secretary (Capt. P. Clemens) and the first shipment was made in January 16, 1924. The bulk of the exhibits were shipped by the beginning of April, but shipment of foodstuffs, etc., were made at intervals as required throughout the period of the Exhibition.

11. SIERRA LEONE PAVILION.—On arrival at Wembley on March 3, the Exhibition Commissioner found there was considerable work still to be done on the interior of the building. However this was pushed on, with Mr. Addison's able assistance, and the interior and fittings were completed in good time to allow for the arrangement of the exhibits. The Sierra Leone

Pavilion was built to represent a rest-house of the Protectorate and was therefore modest in design as compared with the palacial buildings of Nigeria and the Gold Coast. The doors and windows were all made of Sierra Leone timber, and the roof was thatched in resemblance of a rest-house. The plan of the Pavilion was made by the Public Works Department. The Pavilion was built by Sir Robert McAlpine and Sons, the show cases were made by the Army and Navy stores.

12. Sierra Leone Village.—The village buildings were designed by Mr. Addison, and their design and lay out, considering the small space available in the village, was very creditable. There was considerable delay on the part of the contractors in completing the village buildings, which was partly due to strikes and labour trouble, and the village was not ready for the reception of the Africans on their arrival, consequently they had to be accommodated in a hotel for some days. Each hut was provided with a tortoise stove, it was otherwise furnished in accordance with native custom. In the village enclosure there was a dispensary and hospital ward in case of sickness. The sub-contractors for the building of the village were the Rural Industries Limited.

13. Exhibition Staff.—The writer was appointed Exhibition Commissioner and sailed for Wembley, accompanied by Mr. F. Fofana as clerk, on the 20th February, 1924, and took over the duties of his post from Mr. Addison on the 3rd March. Mr. Addison then became Assistant Commissioner and Mr. K. G. Burbridge, Senior Assistant Conservator of Forests, was also appointed Assistant Commissioner. Captain D. C. Thompson, Secretary of the Local Committee, was appointed Assistant Commissioner and acted as such from May 26 to June 21, and July 12 to August 16. Captain P. Clemens also rendered valuable assistance on several occasions in advising and assisting in financial matters. The Auditor was Mr. F. C. Fisher, O.B.E. Mrs. Pedal was engaged as stenographer.

14. Arrangement of Pavilion.—At the main entrance was the Commissioner's Office and Information Bureau. At one end of the Pavilion was exhibited the timbers, and another forest produce, palm oil, palm kernels, coconuts and copra, gum copal, gorli seed and oil, dye-stuffs, fibres, etc. A collection of furniture made from these woods by native carpenters was exhibited and products manufactured from the raw materials above cited. At the other end of the building was shown a large variety of country cloths and basket work. Also a large collection of photographic enlargements of Sierra Leone views in swinging frames on large pedestrals. Madam Stinus exhibited a large collection of paintings made by her in Sierra Leone. Agricultural produce was exhibited on an open stand, whilst articles of ethnological interest and native manufacture were exhibited on the walls and in special show cases. Draped from the roof were large and handsome country cloths. Outside the office was exhibited a large scale map of the Colony and Protectorate. On the walls were shown statements of imports and exports showing the trade of the country. The Medical and Sanitary Department exhibited a large collection of photographs connected with and illustrating tropical hygiene. The Bank of British West Africa showed an interesting collection of old Sierra Leone coins. The Pavilion was lit by a row of powerful lamps suspended down the centre from the girders as well as outside the four entrances. On the wall outside on the rounded end of the building, which projects into the centre of the Walled City, was painted the Sierra Leone arms in colour, and the Sierra Leone flag, which was daily hoisted on a staff erected at the end of the Pavilion, indicated to visitors the whereabouts of Sierra Leone in the Exhibition grounds at Wembley.

15. African Craftsmen and Attendants.—Eight Africans, with their wives, came over to participate in the Sierra Leone Section. The constable with his wife arrived before the Opening Day, the balance arrived on the 26th April, and were met at Plymouth by the Exhibition Commissioner. They comprised two court messengers, one soldier, one forester, two weavers and one canoeman. The uniformed men rendered excellent help as attendants in the Sierra Leone Pavilion, and the weavers gave daily demonstrations in weaving and interested large crowds of spectators. During the time they were at Wembley they saw most of the stadium functions, including the Rodeo, the Pageant, the Empire Day Celebrations and the Naval and Military Tattoo. They also enjoyed a fair amount of sight seeing and were entertained to trips to the following places, making the journeys by charabanc, in each case accompanied by the Exhibition Commissioner or an Assistant Commissioner:—

(*a*) The Royal Botanic Gardens, Kew
(*b*) Hampton Court
(*c*) The Zoological Gardens
(*d*) Kenley Aerodrome (guests of the Niger Company)
(*e*) Covent Garden
(*f*) Smithfield Meat Market
(*g*) Billingsgate Fish Market
(*h*) Up the Thames to Windsor (guests of Messrs. Elder Dempster and Company)
(*i*) Messrs. Peak, Freans Biscuit Factory at Bermondsey (arranged by African Industries, Limited)
(*j*) Shooters Hill (guests of Baroness d' Erlanger)

16. Publications.—A small Exhibition Handbook was compiled by Captain D. C. Thompson, also a catalogue of exhibits. Professor D. B. Blacklock, M.D., prepared a pamphlet on The White Man's Grave and Dr. Easmon one on Sierra Leone Country Cloths and Mrs. Milne a children's booklet entitled Ten Little Mende Girls. These were on sale at the Sierra Leone Pavilion.

17. Sales.—Throughout the exhibition there was a big demand for country cloths, basket work, leatherwork and other articles of native workmanship by visitors anxious to take away a souvenir of their visit to Sierra Leone. A large variety of post cards of Sierra Leone views were placed on sale and there was a big demand for these, post card sales amounting to £953. The Sierra Leone mascot, a minature of a "numori," kindly loaned by the Assistant Commissioner, Mr. W. Addison, met with a good sale. Three sales girls were employed to attend to the sales, in addition to the African attendants who assisted in the sale of post cards.

18. Trade Exhibits.—Messrs. Loders & Nucoline, Limited, exhibited a comprehensive collection of oil-palm and coconut products, showing the various uses made of them. Messrs. Robt. Ingham Clark & Co., Ltd., exhibited gum copal and varnish prepared from it as well as a varnished panel. Messrs. Beechwood, Limited, Chesham, Bucks exhibited a comprehensive collection of brushes made from Sierra Leone piassava, showing the various uses to which that fibre is put. Mr. Frank Godden showed a fine collection of old Sierra Leone stamps which were exhibited alongside a collection of Sierra Leone stamps of current issue. The sale of Sierra Leone stamps at Wembley realized £297.

19. Trade Enquiries.—There were many enquiries as to the possibilities of trade in Sierra Leone. Considerable interest was shown in the various products of the country, particularly palm oil and kernels, piassava, gum copal, chillies, timbers, oil seeds, ginger, cassava starch, fibres, etc. The demand at Wembley for articles of native manufacture continues and a local Mandingo dealer has received large orders from Holland and the Bahamas.

20. Awards.—The British Empire Exhibition Board made the following awards to exhibitors in the Sierra Leone Pavilion :—

Commemorative Medals and Certificates.

1. Divison of Forests, Lands and Forests Department, for collection of Sierra Leone timbers and forest produce.
2. Division of Agriculture, Lands and Forests Department, for collection of agricultural produce.
3. Public Works Department, for collection of furniture of Sierra Leone woods.
4. Madam Rose Chicotot Stinus, for collection of paintings of Sierra Leone.
5. Messrs. Loders and Nucoline, Limited, for collection of oil-palm and coconut products and manufactures.

Diplomas of Honour.

6. Messrs. Beechwood, Limited, for collection of brushes made from Sierra Leone Piassava.
7. Messrs. Robt. Ingham Clark and Company, Limited, for collection of Sierra Leone gum copal and varnishes made from Sierra Leone gum copal.
8. Mr. B. W. Davis, for collection of gold work.
9. Bank of British West Africa, Limited, for collection of old Sierra Leone coins.
10. Mr. W. E. D. Campbell, for pictorial map of Sierra Leone.
11. Musa Soccoh, for collection of "Gbele" leatherwork.

21. Royal Visits.—Their Majesties the King and Queen, accompanied by Their Majesties the King and Queen of Italy, paid an official visit to the walled City on 28th May. The Exhibition Commissioner of Sierra Leone received Their Majesties at the entrance to the Sierra Leone Pavilion and conducted the Royal Party through the Pavilion and the Sierra Leone Village. The Queen expressed much interest in the country-cloths and the King was very interested in cotton and palm oil, its products and uses. In the village Their Majesties made many kind enquiries as to the welfare of the Africans and entered and inspected the huts. The Africans subsequently presented the Queen with a large country-cloth, the first that had been made in the Weaving Barri at Wembley, which Her Majesty was graciously

pleased to accept. On 27th June Their Majesties the King and Queen of Denmark visited the Sierra Leone Village. His Royal Highness the Prince of Wales paid a visit to the Sierra Leone Village on 30th June. On 19th August Her Royal Highness Princess Marie Louise paid a visit to the Sierra Leone Pavilion and Village and much admired the leatherwork and was graciously pleased to accept examples as a souvenir of her visit. His Royal Highness the Duke of Connaught, together with lady Patricia Ramsay, also visited the Sierra Leone Pavilion and Village and spoke of their visit to Sierra Leone. His Excellency the Governor and Lady Slater were present on that occasion and received and accompanied them around the Pavilion and Village.

22. Hospitalities.—Sierra Leone's principal officials in London were honoured by Their Majesties the King and Queen by invitation to a Garden Party at Buckingham Palace.

By Her Royal Highness the Duchess of York to an Afternoon Party. By His Royal Highness the Duke of Connaught to an Afternoon Party at St. James Palace. By Her Grace the Duchess of Norfolk to an At Home at Norfolk House. Sierra Leone was also entertained by the Prime Minister at a Garden Party at Hampton Court and by the First Lord of the Admiralty to witness the Naval Review at Spithead on the 16th July. Sierra Leone was also entertained to banquets and receptions by the Lord Mayor of London, by the Lord Mayor of Manchester, by His Grace the Duke of Devonshire and the Council of the British Empire League, by Lord and Lady Stevenson, by the Editor of the African World, by the Trafford Park Estates, by the Empire Textile Conference, as well by most of the Dominions, and Colonies participating at Wembley.

Sierra Leone in return gave a Dinner at the Hotel Cecil on 29th July to which were invited the principal officials of the British Empire Exhibition and the Dominions and Colonies.

On 31st July Sierra Leone gave a lunch at Wembley, to which were invited officials of the British Empire Exhibition, representatives of trade, Sierra Leoneans in London and Sierra Leone officers home on leave. After the lunch His Excellency the Governor gave an address on Sierra Leone in the West African Cinema Hall, illustrated by lantern slides which was followed by a reception and Afternoon Party at the Pavilion.

23. Results.—Immediately at the close of the Exhibition the Chairman of the West African Group Committee asked the Exhibition Commissioner for Sierra Leone for his views as to the practical results of Sierra Leone's participation.

The following was the reply given :—

> "The interest shown in Sierra Leone's representation at Wembley by those directly or indirecfly concerned in the uses and consumption of the raw products of the conntry has been considerable and should lead to increase trade activity in due season. In a tropical country like Sierra Leone, which is not a manufacturing but a purely agricultural country, immediate results can hardly be expected, but the interest shown in the staple products such as palm kernels and oil, piassava fibre, kola nuts, ginger, cotton, gum copal, as well as in lesser and little known products, has been very great, judging from the number of trade enquiries received, and it is hoped this interest will lead, in due course, to a greater demand for Sierra Leone products and to increased exports. Considerable interest has also been shown in Sierra Leone as a market for British manufactured goods. Sierra Leone is already a big consumer of Manchester cotton goods, as well as many other manufactures. The increased demand for Sierra Leone export crops will in turn mean an increase in the demands for import goods.
>
> The display of examples of native handicrafts made great impression on the general public, who were not previously acquainted with the number and variety of crafts practised by the Africans of Sierra Leone. The country cloths, gold work, basket and leatherwork and ivory articles were in great demand and were bought in large numbers as souvenirs.
>
> There can be no doubt that the numerous visitors in the Exhibition acquired much useful information regarding Sierra Leone and its people, and as a means of educating the masses in the resources of this ancient and loyal Colony, the Exhibition was undoubtedly a great success."

When Sierra Leone decided to participate in the British Empire Exhibition, it was for a clear and definite purpose—to interest enterprise in the fuller development of its resources, to increase its trade and commerce and lastly, but not least, to generally promote the education, prosperity and welfare of its people. If the very modest display of its resources at the Sierra Leone Pavilion at Wembley and information imparted has awakened an interest in the country, its people and its produce (and it undoubtedly has) its participation will not have been in vain.

24. Royal Appreciation.—The following letter was received from His Royal Highness the Prince of Wales, President of the Exhibition :—

St. James's Palace, S.W. 1.,
25th November, 1924.

Sir,

As President of the British Empire Exhibition I wish to congratulate Sierra Leone on the splendid manner in which its natural resources and national life were represented to the public of the Empire at Wembley Park.

That representation has been of very great value to our people in the Home Country and I trust that their patriotic participation will bring great practical benefits to the people of Sierra Leone, a Colony which I hope to visit next year on my way to South Africa.

Please convey to all who have taken part in Sierra Leone's display my sincere thanks for their work.

Believe me,
Yours truly,

EDWARD P.
President.

M. T. DAWE, Esq.,
Sierra Leone Pavilion,
Wembley.

24. Finance.—The following is a statement of Revenue and Expenditure connected with Sierra Leone's representation at Wembley from which it will be seen that the net cost to the Government was £11,120.

STATEMENT OF REVENUE AND EXPENDITURE, BRITISH EMPIRE EXHIBITION, 1923–1924.

REVENUE.

Head of Service :	£	*s.*	*d.*
Sale of Exhibits	1,579	9	0
Sale of Post cards	953	5	10
Sale of Sierra Leone Stamps	297	10	9
Village Takings	268	17	8
Sale of Mascots	153	18	10
Publications—Sale of and Advt. in	103	2	3
Hospitality	37	16	0
Portfolios	4	2	0
Miscellaneous Receipts	0	4	1
	£3,398	6	5

HEAD OF SERVICE.	Local Expenditure.			Exhibition Commissioner's Statement in London.			Crown Agents.			TOTAL.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
a. Travelling and out-of-pocket expenses of staff	...			14	2	8 (*a*)						
				242	16	2						
								...		256	18	10
b. Office furniture and equipment	...			19	4	3 (*a*)						
				34	2	5						
								...		53	6	8
c. Office expenditure, stationery, postage, cables, etc.	...			26	11	0 (*a*)	12	11	0 (*a*)			
				268	0	3	4	5	9			
										311	8	0
d. Insurances, buildings, staff, exhibits, etc.	...			77	16	6	0	3	8	78	0	2
e. Salaries	5	15	0 (*a*)	41	13	4 (*a*)						
	92	14	9	604	16	10						
								...		744	19	11
f. Allowances	...			1,066	19	5	17	0	0	1,083	19	5
g. Ocean freight on exhibits	3	4	6	11	4	8 (*a*)	11	0	9 (*a*)			
				222	11	8						
										248	1	7
h. Railage and cartage in England	...			0	15	3 (*a*)						
				170	17	10						
								...		171	13	1
i. Dock, port and landing dues	...			1	2	1 (*a*)	2	3	3 (*a*)			
				43	2	3						
										46	7	7
j. Maintenance of native staff	394	2	2	534	11	3		...		928	13	5
k. Pavilion equipment and fittings	205	2	9 (*a*)	...			1,457	14	0 (*a*)			
				879	12	9	284	18	2			
										2,827	7	8
Carried forward ... ... £	...			...			...			7,017	15	4

EXPENDITURE—*continued.*

HEAD OF SERVICE.	Local Expenditure.	Exhibition Commissioner's Statement in London.	Crown Agents.	TOTAL.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward ... ... £	...	...	...	7,017 15 4
l. Village furnishing and fittings	...	...	200 0 0 (*a*)	
		217 19 4	870 15 9	
				1,288 15 1
m. Cost of exhibits	806 13 8 (*a*)			
	842 16 2	228 11 11		
			...	1,878 1 9
n. Publishing, printing and advertising	41 0 0	320 13 0	89 3 8	450 16 8
o. Picture post cards and portfolios	...	1,265 16 10	...	1,265 16 10
p. Hospitality	...	266 19 1	...	266 19 1
q. Group expenditure	...	...	190 19 7 (*a*)	
			1,704 0 5	
				1,895 0 0
r. Cost of maps	297 5 7 (*a*)	...	...	297 5 7
s. Passages	345 7 0	30 10 0	...	375 17 0
t. Cinema film	...	...	49 9 8	49 9 8
Total ... ... £	3,034 1 7	6,590 10 9	4,894 5 8	14,518 18 0

(*a*) 1923 Expenditure.

Less Adjustments.	£	*s.*	*d.*
Mr. Dawe's cash retired	48	13	9
Mr. Addison's cash retired	11	11	2
Insurance deposit	8	12	0
	£68	16	11

SUMMARY.

	£	*s.*	*d.*
1923 Actual	3,322	10	6
1924 Accounts not finally closed ...	11,265	4	5
	£14,587	14	11
Less	68	16	11
	£14,518	18	0

	£	*s.*	*d.*
Expenditure	14,518	18	0
Revenue	3,398	6	5
Net Expenditure ...	£11,120	11	7

25th February, 1923.

P. CLEMENS,
Financial Secretary.

25. CONCLUSION.—This is but a brief account of Sierra Leone's participation. This small Colony, alongside its more potential sisters Nigeria and the Gold Coast, could not hope to rival them in any way, but it made a good effort to play its part. Sierra Leone maintained throughout the Exhibition, the most amiable relations with Nigeria and the Gold Coast and the three Colonies worked cordially together for the common good of West Africa. The management of the West African Section could not have been in better hands than Mr. H. S. Goldsmith, C.M.G., whose long knowledge of the West Coast, its officials and people, enabled him to conduct "Group" affairs without a hitch or word of discord. The best of relations also existed with the Exhibition Authorities and with the representatives of the Dominions and Colonies throughout the Exhibition.

The Exhibition Commissioner would like, in conclusion to express his grateful thanks to the Assistant Commissioners and all the staff for their devotion in their respective duties. The hours were often very long and tedious and the sacrifices great, but these were all cheerfully borne as everyone felt that he or she was doing his or her best for the Empire.

The thanks of Sierra Leone are due to Messrs. Elder Dempster & Co. for the facilities they afforded for the transport of exhibits and for reduced freights. To Mr. J. C. Fisher, O.B.E., the Colonial Auditor, for his kindly advice as to accountancy. To the Colonial Bank special thanks are due for the banking facilities they afforded Sierra Leone and for the loan of a Safe.

The Walled City of West Africa will long remain in the memories of the millions who visited its Pavillions and African Village, but its influence for the advancement of West Africa cannot be told for many years to come.

M. T. DAWE,
Exhibition Commissioner for Sierra Leone,
British Empire Exhibition, 1924.

LANDS AND FORESTS DEPARTMENT,
FREETOWN,
1925.